

Review Protocol Physiotherapie bei Belastungsinkontinenz

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1. Hintergrund

Im Rahmen einer S2e(evidenzbasiert)-Leitlinienentwicklung zur Behandlung bei Belastungsinkontinenz, soll ermittelt werden, welche Bedeutung die Physio- bzw. Bewegungstherapie in der Gesamttherapie hat. Um die besten physiotherapeutischen Anwendungen innerhalb der Therapie zu bestimmen, ist es notwendig zu ermitteln wie die Evidenz in Bezug auf den Einsatz von Physiotherapie bei Belastungsinkontinenz ist.

2. Review-Fragen

Die Fragen für unsere systematische Literaturrecherche lauten somit:

1. Welche Methoden der Physio- bzw. Bewegungstherapie eignen sich besonders bei Belastungsinkontinenz in der Schwangerschaft?
2. Welche Methoden der Physio- bzw. Bewegungstherapie eignen sich besonders bei Belastungsinkontinenz im Alter?

3. Welchen Methoden der Physio- bzw. Bewegungstherapie eignen sich besonders bei Belastungsinkontinenz nach der Geburt?
4. Welche Methoden der Physio- bzw. Bewegungstherapie eignen sich besonders bei Belastungsinkontinenz postoperativ?

2.1. Das PICO(S)-System

P	Population	Erwachsene Patientinnen mit Belastungsinkontinenz.
I	Intervention	Verschiedene Formen der Physio- bzw. Bewegungstherapie (Methode, Individuell vs. Gruppe, Dauer, Intervalle etc.).
C	Comparison	Patientinnen mit Belastungsinkontinenz, die keine Physio- bzw. Bewegungstherapie erhalten.
O	Outcome	Positive Auswirkungen in Bezug auf Inkontinenz, und Verbesserung der Lebensqualität.
S	Study design	RCT, Reviews und Meta-Analysis

3. Suchstrategie inkl. Suchbegriffe und durchsuchte Literaturquellen

Die Literatursuche erfolgt nun in verschiedenen Schritten, die im Folgenden an unserem Beispiel konkretisiert werden sollen.

3.1. Suche in elektronischen Datenbanken

- PEDro
- Cochrane Controlled Trial register (CCTR)
- Medline/PubMed
- Cinahl

Zusätzliche Quellen:

- Allgemeine Internetrecherche
- Screening der Literaturangaben in den ermittelten Artikeln
- Durchsuchen verschiedener anderer Fachzeitschriften

3.2. Beschränkung der Suche

Beschränkung der Studienqualität: bis Score 5/10 bei Einzelstudien (PEDro-Skala)

Beschränkung des Suchzeitraumes: seit 1998

Beschränkung der Sprachen: Englisch, Deutsch

3.3. Suchbegriffe

Die Suchbegriffe sollten sich aus der Fragestellung ergeben. Je nach Datenbank müssen sie dann noch weiter präzisiert werden. So muss bei einer Datenbank wie Pedro nicht noch zusätzlich der Begriff „*physiotherapy*“ bzw. „*physical therapy*“ oder „*exercise therapy*“ eingegeben werden, da sich diese Datenbank auf physiotherapeutische Themengebiete spezialisiert hat. Bei Medline wiederum gibt es die Möglichkeit MeSH = Medical Subject Headings zu nutzen, wo verschiedene Begriffe zu Schlagwörtern zusammengefasst wurden.

Pedro-Recherche:

- incontinence (urinary, stress)
- pelvic floor muscles training

Cochrane-Recherche:

- "Physical Therapy Modalities"[Mesh] OR "Exercise"[Mesh] OR "Exercise Therapy"[Mesh]
- "urinary Incontinence, Stress" [Mesh]
- "pelvic floor"[Mesh] OR pelvic floor muscles training OR pelvic floor exercises OR "Pessaries"[Mesh]
- „Digital Rectal Examination“ [Mesh] OR "ultrasonic"[Mesh] OR "ultrasonography"[Mesh]

Medline-Recherche:

- "Physical Therapy Modalities"[Mesh] OR "Exercise"[Mesh] OR "Exercise Therapy"[Mesh]
- "urinary Incontinence, Stress" [Mesh]
- "pelvic floor"[Mesh] OR pelvic floor muscles training OR pelvic floor exercises OR "Pessaries"[Mesh]
- „Digital Rectal Examination“ [Mesh] OR "ultrasonic"[Mesh] OR "ultrasonography"[Mesh]

Cinahl-Recherche:

- physical therapy / physiotherapy
- incontinence (urinary, stress)

TAB. 1: KRIETERIEN DER STUDIENAUSWAHL

Auswahlkriterien	Einschlusskriterien	Ausschlusskriterien
Population	Erwachsene Patientinnen mit Belastungsinkontinenz.	andere Personen
Intervention	Verschiedene Formen der Physio- bzw. Bewegungstherapie (Methoden, Individuell vs. Gruppe, Dauer, Intervalle etc.).	andere Interventionen (Medikamente, Operationen, reine Verhaltenstherapie etc.)
Kontrollgruppe	Patientinnen mit Belastungsinkontinenz, die keine Physio- bzw. Bewegungstherapie erhalten.	andere Kontrollgruppen
Endpunkt	Positive Auswirkungen in Bezug auf die Symptome der Belastungsinkontinenz und Verbesserung der Lebensqualität.	andere Messmethoden
Study design	RCT, Reviews, Meta-Analysen	andere Studiendesigns

Die Ergebnisse der Suche wurden so nach den Kriterien der Review-Frage und den Einschlusskriterien überprüft. Hierbei handelt es sich um einen Prozess, der in verschiedenen Schritten erfolgt:

1. Potentiell relevante Studien und Reviews (nach Title und Abstract)
2. Gründe für den Ausschluss
3. Studien detaillierter überprüft (z.B. nach Volltext)
4. Gründe für den Ausschluss
5. Relevant Studien für einen systematischen Review

4. Qualität der Studien

Jede Studie wird nach den folgenden Kriterien untersucht.

4.1. Evidenzlevel

Die Hierarchie der Studien erfolgt von 1 bis 5, wobei 1 das höchste und 5 das niedrigste Niveau darstellt.

TAB. 2: EVIDENZ-LEVEL NACH OXFORD CENTER FOR EVIDENZ.BASED MEDICINE (OCEBM)

Level	Beschreibung
1a	Systematische Reviews von homogenen kontrollierten Studien
1b	Randomisierte kontrollierte Studien (RCT's) mit engem Konfidenzintervall
2a	Systematische Reviews von homogenen Kohortenstudien
2b	Randomisierte kontrollierte Studien mit niedrigem Follow-up (<80%), einzelne Kohortenstudien, retrospektive Kohortenstudien
2c	Ökologische Studien
3a	Systematische Reviews von Fall-Kontroll-Studien
3b	Einzelne Fall-Kontroll-Studien
4	Fallberichte
5	Expertenmeinung

Allerdings werden lediglich die Level 1a, 1b, 2a und 2b für diese Recherche näher betrachtet.

4.2. Darstellung der herausgefundenen Evidenz

Die folgenden qualitativen Aspekte der Studien sind wichtig um zu bestimmen, inwieweit die Ergebnisse auch in die Praxis umgesetzt bzw. verallgemeinert werden können:

- Population
- Interventionen
- Setting
- Umfeld bedingte, soziale und kulturelle Faktoren die die Umsetzung beeinflussen könnten.
- Art der Ergebnismessung die angewandt wurde, ihrer relativen Wichtigkeit und Robustheit
- Die Validität der Evidenz.
- Die Stichprobengröße und die Ergebnisse der Studien.

Darüber hinaus sind auch fehlende Informationen von Bedeutung.

Wenn ausreichend Informationen und Daten zur Verfügung stehen, sind Metaanalysen und quantitative Berechnungen möglich. Drei wichtige Fragen müssen dann beantwortet werden:

1. Welche Vergleiche sollen gezogen werden?
2. Welche Messmethoden sollen angewendet werden?

3. Welche Methoden sollen angewandt werden um die Effektivität zu messen?

Messwerte, die dann in die Tabelle eingetragen werden müssen:

- Auswirkungen (Behandlungseffekt, Einschätzung der Effekte): p-Wert, Odds Ratio, Relatives Risiko, Anzahl der notwendigen Behandlungen
- p-Wert (statistische Signifikanz) → p-Wert unter 5% ist nicht relevant.

5. Dokumentation

TAB. 3: TABELLE DER SUCHSTRATEGIE „BELASTUNGSINKONTINENZ“ PEDRO

Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	PEDro	
Time period:	published since 1998	
Further limits:	Score of at least 5/10	
Date of searching:	02/11/2011	
Search	Result	Queries
#1	61	urinary stress incontinence OR stress incontinence

TAB. 4: TABELLE DER SUCHSTRATEGIE „BELASTUNGSINKONTINENZ“ PUBMED

Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	PubMed	
Time period:	published since 1998	
Date of searching:	03/11/2011	
Search	Result	Queries
#1	159793	"Physical Therapy Modalities"[Mesh] OR "Exercise Therapy"[Mesh] OR "Exercise"[Mesh]
#2	7932	"Urinary Incontinence, Stress"[Mesh]
#3	28094	(((((("Pelvic Floor"[Mesh])) OR (pelvic floor muscle training)) OR (Pelvic Floor exercises)) OR (kegel exercises)) OR ("Pessaries"[Mesh])) OR (whole body vibration)) OR (whole body vibration galileo)) OR (whole body vibration power plate)) OR (magnetic stimulation)
#4	94	(#1 OR #3) AND #2 Limits: (("women"[MeSH Terms] OR "female"[MeSH Terms]) AND (Meta-Analysis[ptyp] OR Randomized Controlled Trial[ptyp] OR Review[ptyp])) AND (English[lang] OR German[lang]) AND "adult"[MeSH Terms])
#5	6951	((("Gynecological Examination"[Mesh])) OR ("Digital Rectal Examination"[Mesh] OR "Palpation"[Mesh]))
#6	15	#2 AND #5 (ohne Limits)

TAB. 5: TABELLE DER SUCHSTRATEGIE „BELASTUNGSINKONTINENZ“ COCHRANE

Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	Cochrane	
Time period:	published since 1998	
Date of searching:	04/11/2011	
Search	Result	Queries
#1	18836	"Physical Therapy Modalities"[Mesh] OR "Exercise Therapy"[Mesh] OR "Exercise"[Mesh]
#2	531	"Urinary Incontinence, Stress"[Mesh]
#3	2475	(((((("Pelvic Floor"[Mesh])) OR (pelvic floor muscle training)) OR (Pelvic Floor exercises)) OR (kegel exercises)) OR ("Pessaries"[Mesh])) OR (whole body vibration)) OR (whole body vibration galileo)) OR (whole body vibration power plate)) OR (magnetic stimulation)
#4	99	(#1 OR #3) AND #2
#5	6622	((("Digital Rectal Examination"[Mesh])) OR ("Ultrasonics"[Mesh] OR "Ultrasonography"[Mesh]))
#6	3	#2 AND #5 AND Limits: Female[MeSH Terms] AND (Meta-Analysis[ptyp] OR Randomized Controlled Trial[ptyp] OR Review[ptyp]) AND (English[lang] OR German[lang]) AND adult[MeSH]

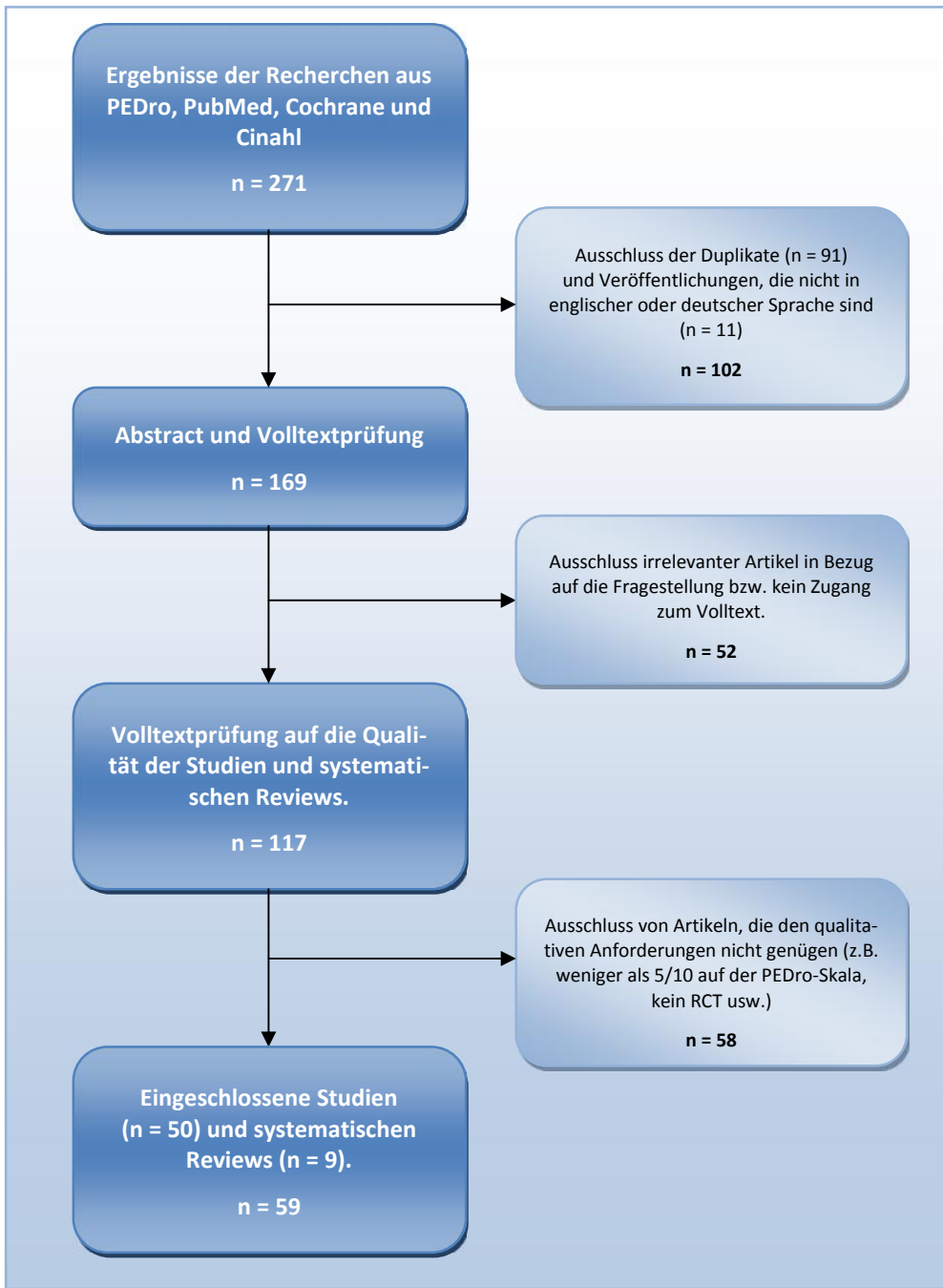
TAB. 6: TABELLE DER SUCHSTRATEGIE „BELASTUNGSINKONTINENZ“ CINAHL

Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	Cinahl	
Time period:	published since 1998	
Date of searching:	04/11/2011	
Search	Result	Queries
#1	89277	Physical Therapy Modalities OR Exercise Therapy OR Exercise
#2	528	Urinary Incontinence, Stress
#3	1798	Pelvic Floor OR pelvic floor muscle training OR Pelvic Floor exercises OR kegel exercises OR Pessaries OR whole body vibration OR whole body vibration galileo OR whole body vibration power plate OR magnetic stimulation
#4	5343	Digital Rectal Examination OR Ultrasonics OR Ultrasonography
#5	194	(#1 OR #3) AND #2
#6	17	Limiters - Published Date from: 19980101-20111131; Research Article; Exclude MEDLINE records; Sex: Female; Age Groups: All Adult Search modes - Boolean/Phrase

TAB. 5: TABELLE DER SUCHERGEBNISSE „BELASTUNGSINKONTINENZ“

Datenbank	Schritt	Suchbegriff	Treffer	Ausschlusskriterium
PEDro	1	urinary stress incontinence OR stress incontinence	61	
	2		46	Nach Abstract- und Volltextprüfung
PubMed	1	(((((("Physical Therapy Modalities"[Mesh]) OR ("Exercise Therapy"[Mesh]) OR ("Exercise"[Mesh])) OR (((((((("Pelvic Floor"[Mesh]) OR (pelvic floor muscle training)) OR (Pelvic Floor exercises)) OR (kegel exercises)) OR ("Pessaries"[Mesh]) OR (whole body vibration)) OR (whole body vibration galileo)) OR (whole body vibration power plate)) OR (magnetic stimulation))) AND ("Urinary Incontinence, Stress"[Mesh]))	94	
	2		8 (davon 4 Reviews)	Nach Abstract- und Volltextprüfung und nach aussortieren der Doppelten aus PEDro.
Cochrane	1	(((((("Physical Therapy Modalities"[Mesh]) OR ("Exercise Therapy"[Mesh]) OR ("Exercise"[Mesh])) OR (((((((("Pelvic Floor"[Mesh]) OR (pelvic floor muscle training)) OR (Pelvic Floor exercises)) OR (kegel exercises)) OR ("Pessaries"[Mesh]) OR (whole body vibration)) OR (whole body vibration galileo)) OR (whole body vibration power plate)) OR (magnetic stimulation))) AND ("Urinary Incontinence, Stress"[Mesh]))	99	
	2		5 (alle Reviews)	Nach Abstract- und Volltextprüfung und nach aussortieren der Doppelten aus PEDro und PubMed.
Cinahl		((Physical Therapy OR Physiotherapy OR Exercise Therapy OR Exercise) OR (Pelvic Floor OR pelvic floor muscle training OR Pelvic Floor exercises OR kegel exercises OR Pessaries OR whole body vibration OR whole body vibration galileo OR whole body vibration power plate OR magnetic stimulation)) AND Urinary Incontinence, Stress	17	Nach Abstract- und Volltextprüfung und nach aussortieren der Doppelten aus PEDro, PubMed und Cochrane.
			0	
Summe			59 (davon 9 Reviews)	

ABB. 1 FLOW CHART DER DATENBANKABFRAGE



Review Protocol zu gynäkologischen Untersuchungen und Assessments zum Beckenboden von Physiotherapeuten

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4.2. Darstellung der herausgefundenen Evidenz	Fehler! Textmarke nicht definiert.
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6. Hintergrund

Im Rahmen der S2e(evidenzbasiert)-Leitlinienentwicklung zur Behandlung bei Belastungsinkontinenz und Deszensus genitalis, soll ermittelt werden, welche Formen der gynäkologischen Untersuchungen Physiotherapeuten anwenden können und welche Assessments sich zur Kontrolle des Therapieerfolges eignen. Der Hauptfokus liegt hierbei auf den Beckenboden. Um die besten physiotherapeutischen Untersuchungsmethoden bzw. Assessments zum Beckenboden zu ermitteln, ist es notwendig die Evidenz in Bezug auf diese Methoden darzulegen.

7. Review-Fragen

Die Fragen für unsere systematische Literaturrecherche lauten somit:

5. Welche gynäkologischen Untersuchungsmethoden werden von Physiotherapeuten angewendet?

6. Welche Assessments zum Beckenboden kommen bei Belastungsinkontinenz bzw. Deszensus genitalis zum Einsatz?

7.1. Das PICO(S)-System

P	Population	Erwachsene Patientinnen mit Belastungsinkontinenz bzw. Deszensus genitalis.
I	Intervention	Evaluation von Untersuchungsmethoden und Assessments des Beckenbodens.
C	Comparison	
O	Outcome	Validität und Reliabilität der Untersuchungsmethoden und Assessments.
S	Study design	Evaluationsstudien

8. Suchstrategie inkl. Suchbegriffe und durchsuchte Literaturquellen

Die Literatursuche erfolgt nun in verschiedenen Schritten, die im Folgenden an unserem Beispiel konkretisiert werden sollen.

8.1. Suche in elektronischen Datenbanken

- PEDro
- Cochrane Controlled Trial register (CCTR)
- Medline/PubMed
- Cinahl

Zusätzliche Quellen:

- Allgemeine Internetrecherche
- Screening der Literaturangaben in den ermittelten Artikeln
- Durchsuchen verschiedener anderer Fachzeitschriften

8.2. Beschränkung der Suche

Beschränkung des Suchzeitraumes: seit 1998

Beschränkung der Sprachen: Englisch, Deutsch

Ausgeschlossen wurden auch alle Studien, die sich mit Fragebogen auseinandersetzen, da nur wenige englischsprachige Fragebogen auch ins Deutsche übersetzt wurden und Studien bei denen es um reine technische Gerätetests bzw. Vergleiche unterschiedlicher Anbieter geht.

8.3. Suchbegriffe

Die Suchbegriffe sollten sich aus der Fragestellung ergeben. Je nach Datenbank müssen sie dann noch weiter präzisiert werden. So muss bei einer Datenbank wie Pedro nicht noch zusätzlich der Begriff „*physiotherapy*“ bzw. „*physical therapy*“ oder „*exercise therapy*“ eingegeben werden, da sich diese Datenbank auf physiotherapeutische Themengebiete spezialisiert hat. Bei Medline wiederum gibt es die Möglichkeit MeSH = Medical Subject Headings zu nutzen, wo verschiedene Begriffe zu Schlagwörtern zusammengefasst wurden.

Pedro-Recherche:

- pelvic floor
- gynecological examination
- „measurement“ OR “evaluation” OR “assessment”

Cochrane-Recherche:

- "Pelvic Floor"[Mesh] OR "Pelvic Floor Muscles" OR " Pelvic Muscles"
- “gynecological examination” OR "Palpation"[Mesh] OR "Digital Rectal Examination"[Mesh]
- „measurement“ OR “evaluation” OR “assessment”

Medline-Recherche:

- "Pelvic Floor"[Mesh] OR "Pelvic Floor Muscles" OR " Pelvic Muscles"
- “gynecological examination” OR "Palpation"[Mesh] OR "Digital Rectal Examination"[Mesh]
- „measurement“ OR “evaluation” OR “assessment”

TAB. 1: KRIETERIEN DER STUDIENAUSWAHL

Einschlusskriterien	Ausschlusskriterien
erwachsene Frauen	andere Personen
Evaluation von Untersuchungsmethoden und Assessments des Beckenbodens	Interventionsstudien zur Ermittlung von Beckenbodeninterventionen
Validität und Reliabilität der Untersuchungsmethoden und Assessments.	andere Messmethoden

Die Ergebnisse der Suche wurden so nach den Kriterien der Review-Frage und den Einschlusskriterien überprüft. Hierbei handelt es sich um einen Prozess, der in verschiedenen Schritten erfolgt:

6. Potentiell relevante Studien und Reviews (nach Title und Abstract)
7. Gründe für den Ausschluss
8. Studien detaillierter überprüft (z.B. nach Volltext)
9. Gründe für den Ausschluss
10. Relevant Studien für einen systematischen Review

9. Qualität der Studien

Bei der Bewertung der Ergebnissicherheit von Studien zur diagnostischen Güte wurden hier in erster Linie die QUADAS-Kriterien (**Quality Assessment of Diagnostic Accuracy Studies**) herangezogen¹. Darüber hinaus wurde ein Schema zugrunde gelegt, das vom DIMDI angewendet wird und auf einer Veröffentlichung von Flynn & Adams (1996)² basiert und demnach in vier Qualitätsstufen klassifiziert wird.

TABELLE 12: QUALITÄTSSCHEMA EINGESCHLOSSENER STUDIEN ZUR DIAGNOSTISCHEN GENAUIGKEIT.³

A	Studien, die auf ein breites Spektrum von Patienten angewandt werden können und die keine gravierenden methodischen Fehler enthalten:
	<ul style="list-style-type: none"> • prospektives Design, • ≥ 35 Patienten, jeweils mit und ohne Krankheit, • Patienten stammen aus einer klinisch relevanten Grundgesamtheit, deren • klinischen Symptome komplett beschrieben werden, • Diagnose durch angemessenen Referenz -oder Goldstandard gesichert, • technisch hohe Qualität und vom Referenzstandard unabhängige Auswertung der Aufnahmen.
B	Nur eingeschränkt generalisierbare Studien, die zwar methodische Mängel aufweisen können; diese sind jedoch beschrieben und können hinsichtlich ihrer Belastung auf die Schlussfolgerungen abgeschätzt werden:
	<ul style="list-style-type: none"> • prospektives Design, • ≥ 35 Patienten jeweils mit und ohne Krankheit, • eingeschränktes Patientenspektrum, z.B. Universitätskliniken, • keine weiteren methodischen Fehler, die eine Interaktion zwischen dem Testergebnis und der Diagnosestellung fördern.
C	Studien mit gravierenden methodischen Mängeln:
	<ul style="list-style-type: none"> • eine geringe Zahl von Teilnehmern,

¹ Whiting P, Rutjes AW, Reitsma JB, Bossuyt PM, Kleijnen J. (2003) The development of QUADAS: A tool for the quality assessment of studies of diagnostic accuracy included in systematic reviews. BMC Med Res Methodol 2003; 3(25).

² Flynn K, Adams E. (1996) Assessing diagnostic technologies. 1, 1-15. 1996. Boston, HSR&D. Technology Assessment Program.

³ Dr. E. Raum, PD Dr. M. Perleth (2003). Methoden der Metaanalyse von diagnostischen Genauigkeitsstudien. Deutsche Agentur für Health Technology Assessment des Deutschen Instituts für Medizinische Dokumentation und Information (DAHTA@DIMDI). S. 24.

- mangelhafte Berichtsqualität,
- retrospektives Design.

D Studien mit unzureichender methodischer Qualität:

- fehlender adäquater Referenzstandard,
- Testergebnis und Stellung der endgültigen Diagnose nicht unabhängig,
- Patientenherkunft nicht beschrieben, oder war offensichtlich von den Testergebnissen beeinflusst (Workup-Bias),
- nicht durch Daten belegte Aussagen.

10. Dokumentation

TAB. 3: TABELLE DER SUCHSTRATEGIE „UNTERSUCHUNGSMETHODEN“ UND „ASSESSMENTS“ PEDRO

Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	PEDro	
Time period:	published since 1998	
Further limits:	Score of at least 5/10	
Date of searching:	14/5/2012	
Search	Result	Queries
#1	0	pelvic floor AND gynecological examination
	0	pelvic floor AND (measurement OR evaluation OR assessment)

TAB. 4: TABELLE DER SUCHSTRATEGIE „UNTERSUCHUNGSMETHODEN“ UND „ASSESSMENTS“ PUBMED

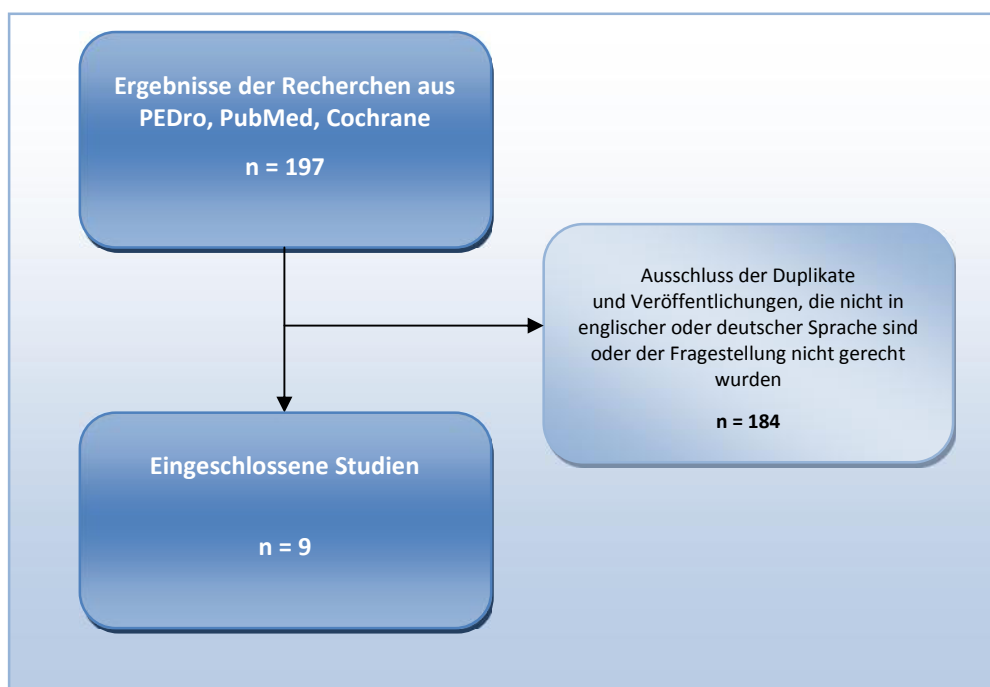
Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	PubMed	
Time period:	published since 1998	
Date of searching:	22/11/2011	
Search	Result	Queries
#1	6865	"Pelvic Floor"[Mesh] OR Pelvic Floor muscles OR Pelvic muscles
#2	2662123	measurement OR evaluation OR assessment OR "Weights and Measures"[Mesh]
#3	8308	("Palpation"[Mesh] OR "Digital Rectal Examination"[Mesh]) OR gynecological examination
#4	1885	#1 AND (#2 OR #3)
#5	63	<u>Limits Activated</u> : Humans, Female, Evaluation Studies, English, German, Publication Date since

TAB. 5: TABELLE DER SUCHSTRATEGIE „UNTERSUCHUNGSMETHODEN“ UND „ASSESSMENTS“ COCHRANE

Responsible for retrieval (conceptualization and conducting):	Reina Tholen	
Database:	Cochrane	
Time period:	published since 1998	
Date of searching:	22/11/2011	
Search	Result	Queries
#1	270	MeSH descriptor Pelvic Floor explode all trees
#2	8733	MeSH descriptor Weights and Measures explode all trees
#3	193354	measurement OR evaluation OR assessment

#4	302	MeSH descriptor Palpation explode all trees
#5	2	MeSH descriptor Gynecological Examination explode all trees
#6	0	(#4 AND #5)
#7	0	(#1 AND #5)
#8	134	(#1 AND #3)

ABB. 1 FLOW CHART DER DATENBANKABFRAGE



Autor	Jahr	Titel	Studienart Evidenzlevel	Intervention	Kontrolle	Frequenz und Dauer	Anzahl der Patienten n=	Primary Outcome	Secondary Outcome	Ergebnis	Kommentar	Datenbank	Ein- und Ausschlusskriterien spezifiziert	Zuordnung verborgen	Gruppen waren zu Beginn vergleichbar	Probanden verblindet	Therapeuten verblindet	Untersucher verblindet	Von mehr als 85% der TN mind. Ein zentrales Outcome erhoben.	Alle TN gemessen wie zugeordnet bzw. 'intentio to treat'.	Statistischer Gruppenvergleich für mind. Ein zentrales Outcome.	Punkt- und Streumadefür mind. Ein zentrales Outcome.
Sherburn	2011	Incontinence improves in older women after intensive pelvic floor muscle training: an assessor-blinded randomized controlled trial.	RCT	pelvic floor muscle training (PFMT)	bladder training (BT)	20 weeks	83 43/40	urinary leakage during a cough stress test	symptoms and bother (ICIQ-UISF), participant global perception of change, leakage episodes (7-day accident diary), degree of "bother" (VAS) and health related quality of life (AOL)	Both groups improved over the intervention period; however, the PFMT group reported significantly lower amounts of leakage on the stress test [PFMT median 0.0 g, 95% CI: 0.2-0.9; BT median 0.3 g, 95% CI: 0.2-1.7, P=0.006], improved symptoms and bother [PFMT mean 5.9, 95% CI: 4.8-7.1; BT group mean 8.5, 95% CI: 7.1-9.9 and greater perception of change [PFMT 28 (73.6%); BT 12 (36.4%) (P=0.002)] after 5 months than the BT group.	8/10	PEDro	ja	ja	ja	nein	nein	ja	ja	ja	ja	ja
Sriboonreung	2011	Effectiveness of pelvic floor muscle training in incontinent women at Maharaj	RCT 1b	1. PFMT every day 2. PFMT 3 days/wk 3. PFMT + abdominal training 3 days/wk		12 weeks	68 23/22/23	pad test	pelvic floor muscle strength, and treatment satisfaction	The weights of pad were decreased by 2.6 + 0.8, 2.3 + 1.3, and 3.1 + 1.3 grams for group 1, 2, and 3, respectively. There was no statistical significant difference among the three groups. The pelvic floor muscle strength was increased by 18.4 + 2.7, 13.9 + 2.9, and 17.3 + 3.0 cmH2O for group 1, 2, and 3, respectively, with statistical significant difference among groups (p < 0.00). The increased muscle strength in group 2 was significant less than the other two groups (p < 0.00). Treatment Satisfaction showed the leakage was improved with non-significant difference between groups (p > 0.05). No complications were seen in any of the	7/10	PEDro	ja	ja	ja	nein	nein	nein	ja	ja	ja	ja
Wing	2010	Effect of weight loss on urinary incontinence in overweight and obese women: results at 12 and 18 months.	RCT 1b	behavioral weight loss intervention	structured education program	6 month	338 226/112	body mass index, 7-day voiding diary	24-hour involuntary urine loss with a standardized pad test, questionnaire	Of the patients 86% completed 18-month measurements. The percent weight loss in the intervention group averaged 8.0%, 7.5% and 5.5% at 6, 12 and 18 months, respectively, vs approximately 1.5% in the control group (all values p < 0.001). Compared with controls at 12 months the intervention group reported a greater percent reduction in weekly stress urinary incontinence episodes (65% versus 47%, p < 0.001), and a greater proportion achieved at least a 70% decrease in weekly total and stress urinary incontinence episodes. At 18 months a greater proportion of women in the weight loss intervention group had more than 70% improvement in urge incontinence episodes but there were no significant differences between the groups for stress or total urinary incontinence. The intervention group also reported greater satisfaction with changes in urinary incontinence than the control group at 6, 12 and 18 months.	1-year follow-up von Subak 2009 6/10	PEDro	ja	nein	ja	nein	nein	ja	ja	nein	ja	ja
Felicissimo	2010	Intensive supervised versus unsupervised pelvic floor muscle training for the treatment of stress urinary incontinence: a randomized comparative trial	RCT 1b	supervised Pelvic floor muscle training (PFMT)	unsupervised Pelvic floor muscle training (PFMT)	8 weeks	62 31/31	pad test	International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF), PVMS, subjective evaluation	After treatment, there were no differences between the two groups regarding PFM strength (p = 0.20), International Consultation on Incontinence Questionnaire-Short Form score (p = 0.76), pad test (p = 0.78), weekly exercise compliance (p = 0.079), and subjective evaluation of urinary loss (p = 0.145).	5/10	PEDro	nein	nein	ja	nein	nein	nein	ja	nein	ja	ja

Hung	2010	An alternative intervention for urinary incontinence: Retraining diaphragmatic, deep abdominal and pelvic floor muscle coordinated function	RCT 1b	8 individual clinical visits and followed a specific exercise program	self-monitored PFM exercises at home	4 month	70 35/35	self-reported improvement	20-min pad test, 3-day voiding diary, maximal vaginal squeeze pressure, holding time and quality of life	After a 4-month intervention period, more participants in the training group reported that they were cured or improved ($p < 0.01$). The cure/improved rate was above 90%. Both amount of leakage and number of leaks were significantly lower in the training group ($p < 0.05$) but not in the control group. More aspects of quality of life improved significantly in the training group than in the control group. Maximal vaginal squeeze pressure, however, decreased slightly in both groups. Coordinated retraining diaphragmatic, deep abdominal and PFM function could improve symptoms and quality of life. It may be an alternative management for women with SUI or MUI.	8/10	PEDro	ja	ja	ja	nein	nein	ja	ja	ja	ja	ja	
Patil	2010	Additive effect of interferential therapy over pelvic floor exercises.	RCT 1b	interferential therapy (IFT) as well as doing set pelvic floor exercises (PFM)	pelvic floor exercises, without any undergoing other treatment	three times a week for 4 weeks, totalling 12 treatment sessions	110 55/55	one hour pad test, frequency volume chart, quality of life questionnaire and a visual analogue score		The results revealed significant ($P < 0.05$) improvement for all outcome measures in each group. Significantly ($p < 0.05$) greater improvements were detected in the group which combined pelvic floor exercises with IFT.	7/10	PEDro	ja	ja	ja	nein	nein	ja	ja	nein	ja	ja	
Richter	2010	A Trial of Continence Pessary vs. Behavioral Therapy vs. Combined Therapy for Stress Incontinence	RCT 1b	1. continence pessary 2. behavioral therapy 3. combination of the two treatments		3 months	446 149/146/151	Patient Global Impression of Improvement, Urogenital Distress Inventory- stress incontinence subscale of the Pelvic Floor Distress Inventory	frequency of incontinence episodes on 7-day bladder diary, Patient Satisfaction Question	At 3 months, scores from 40% of the pessary group and 49% of the behavioral group were "much better" or "very much better" on the Patient Global Impression of Improvement ($P = .10$). Compared with the pessary group, more women in the behavioral group reported having no bothersome incontinence symptoms (49% compared with 33%, $P = .006$) and treatment satisfaction (75% compared with 63%, $P = .02$). Combination therapy was significantly better than pessary as shown on the Patient Global Impression of Improvement (53%, $P = .02$) and Pelvic Floor Distress Inventory (44%, $P = .05$) but not better than behavioral therapy; it was therefore not superior to single-modality therapy. Group differences were not sustained to 12 months on any measure, and patient satisfaction remained above 50% for all treatment groups.	7/10	PEDro	ja	ja	nein	nein	nein	ja	ja	ja	ja	ja	ja
Subak	2009	Weight Loss to Treat Urinary Incontinence in Overweight and Obese Women	RCT 1b	behavioral weight loss intervention	structured education program	6 month	338 226/112	body mass index, 7-day voiding diary	24-hour involuntary urine loss with a standardized pad test, questionnaire	The women in the intervention group had a mean weight loss of 8.0% (7.8 kg), as compared with 1.6% (1.5 kg) in the control group ($P < 0.001$). After 6 months, the mean weekly number of incontinence episodes decreased by 47% in the intervention group, as compared with 28% in the control group ($P = 0.01$). As compared with the control group, the intervention group had a greater decrease in the frequency of stress incontinence episodes ($P = 0.02$), but not of urge-incontinence episodes ($P = 0.14$). A higher proportion of the intervention group than of the control group had a clinically relevant reduction of 70% or more in the frequency of all incontinence episodes ($P < 0.001$), stress-incontinence episodes ($P = 0.009$), and urge-incontinence episodes ($P = 0.04$).	6/10	PEDro	ja	nein	ja	nein	nein	ja	ja	nein	ja	ja	ja
Zaccardi	2010	The effect of pelvic floor re-education on comfort in women having surgery for stress urinary incontinence.	RCT 2b	pelvic floor reeducation before and after surgery	no intervention	2 sessions	29 14/15	paper towel test, Urinary Incontinence Frequency and Comfort Questionnaire (UIFCQ)		The results indicate that comfort scores increased over time without regard to groups (within subjects' measure). No statistically significant differences were found for the main effect for group. Urine leaks also decreased over time in both groups, with no significant difference between groups. All women (100%) in the experimental group found the intervention helpful and worth their time.	sehr kleine Gruppen 6/10	PubMed	ja	ja	ja	nein	nein	nein	ja	nein	ja	ja	

de Oliveira Camargo	2009	Pelvic floor muscle training in female stress urinary incontinence: comparison between group training and individual treatment using PERFECT assessment scheme.	RCT 2b	Pelvic floor muscle training group training	Pelvic floor muscle training individual treatment	12 weeks	60 30/30	Oxford grading system, pad test, voiding diary, and the King's Health Questionnaire	both groups experienced significant reductions in urinary leakage as measured by the pad test and bladder diary. A negative pad test was observed in about 50% of patients in both groups. There were statistically significant improvements in both muscle strength and quality of life. When the groups were compared, there were no differences in the results between them.	6/10	PEDro	nein	ja	ja	nein	nein	nein	ja	nein	ja	ja			
Gilling	2009	A double-blind randomized controlled trial of electromagnetic stimulation of the pelvic floor vs sham therapy in the treatment of women with stress urinary incontinence.	RCT 1b	electromagnetic stimulation (ES) of the pelvic floor	sham electromagnetic stimulation (ES) of the pelvic floor	three sessions per week for 6 weeks	70 35/35	20-min provocative pad-test with a predetermined bladder volume	3-day bladder diary and 24 h pad-test	8/10	PEDro	ja	ja	ja	ja	nein	ja	ja	nein	ja	ja	ja		
Lamb	2009	Group treatments for sensitive health care problems: a randomised controlled trial of group versus individual physiotherapy sessions for female urinary incontinence.	RCT 1b	group treatments	individual sessions	3 sessions????	174 111/63	Symptom Severity Index; Incontinence-related Quality of Life questionnaire; National Health Service costs, and out of pocket expenses	The majority of women expressed no preference (55%) or preference for individual treatment (36%). Treatment attendance was good, with similar attendance with both service delivery models. Overall, there were no statistically significant differences in symptom severity or quality of life outcomes between the models. Over 85% of women reported a subjective benefit of treatment, with a slightly higher rating in the individual compared with the group setting. When all health care costs were considered, average cost per patient was lower for group sessions (Mean cost difference 52.91 pounds 95% confidence interval (25.82 pounds- 80.00 pounds)).	8/10	PEDro	ja	ja	ja	nein	nein	ja	ja	ja	ja	ja	ja	ja	
Liebergall-Wischnitzer	2009	Randomized trial of circular muscle versus pelvic floor training for stress urinary incontinence in women.	RCT 2b	circular muscle training (Paula method)	Pelvic floor muscle training	12 weeks	245 117/123	1-hour clinical pad test	Subjective assessment of urinary symptoms (urinary leakage frequency and volume, nocturia, level of bother associated with urinary leakage and postvoid fullness) based on items included in other validated questionnaires and QoL.	The mean decrease in urinary leakage was 7.9 g (SD 12.1) among women in the Paula group and 8.9 g (SD 18.2) in the PFMT group (90% confidence interval [CI] of between-group difference was -4.68 g to 3.0 g). This did not meet the prespecified criterion for equivalence. There were 15.2% (p = 0.04) more cures in those randomized to the Paula method. Improvement in subjective urinary complaints and QoL was observed in both groups. The study was limited by a dropout rate of 26.6%.	5/10	PEDro	ja	ja	ja	nein	nein	ja	nein	nein	ja	nein	ja	nein

Nager	2009	Incontinence pessaries: size, POPQ measures, and successful fitting.	RCT 1b	(1) incontinence pessary (2) behavioral therapy (including pelvic floor muscle training and exercise and bladder control strategies), or (3) both			446					Gleiche Studie wie Richter 2010!	PubMed											
Tsai	2009	The effectiveness of pelvic floor exercises, digital vaginal palpation and interpersonal support on stress urinary incontinence: an experimental study	RCT	interpersonal support and digital vaginal palpation (DVP) as part of the pelvic floor muscle exercise (PFME) training	PFME with a printed handout instruction	12 weeks (biweekly)	108 54/54	1-h pad tests			All patients without urinary leakage listed as a chief complaint exhibited more or less urine leakage during the 1-h pad test. A significant decrease in the weight of 1-h pad test from baseline was observed in the experimental group ($p < 0.001$) compared to the control group ($p = 0.514$).	5/10	PEdro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja	
Agur	2008	The long-term effectiveness of antenatal pelvic floor muscle training: eight-year follow up of a randomised controlled trial.	RCT 1b	supervised Pelvic floor muscle training (PFMT)	no treatment	3 month	164 79/85	prevalence of SUI at 8 years			One hundred and sixty-four (71%) of the original 230 women responded. The significant improvement in postnatal SUI originally shown in the PFMT group compared with controls (19.2 versus 32.7%, $P = 0.02$) at 3 months was not evident 8 years later (35.4 versus 38.8%, $P = 0.7$). On direct questioning, 68.4% of the study group claimed that they still performed PFMT as taught during the study, with 38.0% of them performing this twice or more per week. There was no difference in outcome between those who performed PFMT twice or more per week compared with those performing PFMT less frequently. There were no differences in quality-of-life domains between the study and the control groups at 8 years	8-year follow-up von Reilly 2002. 6/10	PubMed	ja	nein	nein	nein	nein	ja	ja	ja	ja	ja	ja
Castro	2008	Single-blind, randomized, controlled trial of pelvic floor muscle training, electrical stimulation, vaginal cones, and no active treatment in the management of stress urinary incontinence.	RCT	1. pelvic floor exercises 2. electrical stimulation 3. vaginal cones	untreated	6 month	118 31/30/27/30	negative pad test with a standardized bladder volume	f-QoL, the number of leakages in the voiding diary, and the urodynamic test		In the objective evaluation, we observed a statistically significant reduction in the pad test ($p=0.003$), in the number of stress urinary episodes ($p<0.001$), and a significant improvement in the quality of life ($p<0.001$) in subjects who used pelvic floor exercises, electrical stimulation, and vaginal cones compared to the control group. No significant difference was found between groups in the urodynamics parameters. In the subjective evaluation, 58%, 55%, and 54% of women who had used pelvic floor exercises, electrical stimulation, and vaginal cones, respectively, reported being satisfied after treatment. In the control group, only 21% patients were satisfied with the treatment.	6/10	PEdro	ja	nein	ja	nein	nein	ja	ja	nein	ja	ja	
Demirturk	2008	Interferential current versus biofeedback results in urinary stress incontinence	RCT 2b	interferential current therapy and biofeedback applications	pelvic floor exercises via biofeedback	5 weeks (3 times a week)	40 20/20	pelvic muscle strength, quality of life			All of the parameters improved after the treatments in each group ($p < 0.05$) and both treatment modalities seemed to have similar effects on pad test (95% CI: -1.48 - 4.59), pelvic muscle strength (95% CI: -9.29 -1.78) and quality of life (95% CI: -11.91 - 5.31) outcomes.	kleine Gruppen 5/10	PEdro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja	
Kim	2007	Effectiveness of multidimensional exercises for the treatment of stress urinary incontinence in elderly community-dwelling Japanese women: a randomized, controlled, crossover trial.	cross-over	pelvic floor muscle (PFM) and fitness exercises		60 minutes per session twice a week for 3 months	70 35/35	body mass index (BMI), urine leakage, walking speed, and muscle strength were measured at baseline, after the intervention, and at follow-up			In the intervention group, maximum walking speed and adductor muscle strength increased significantly after the intervention; there were no significant changes in the control group. After 3 months of exercise, 54.5% of the intervention group and 9.4% of the control group reported being continent. Within the cured group of UI, a significantly higher proportion had decreased their BMI at 3 months ($P=.03$) and increased walking speed at 3 ($P=.04$) and 12 ($P=.047$) months.	5/10	PEdro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja	

Borello-Franc	2006	Effect of Pelvic-Floor Muscle Exercise Position on Continence and Quality-of-Life Outcomes in Women With Stress Urinary Incontinence	RCT 2b	exercise in the supine position only	exercise in supine and upright positions	12 weeks	44 22/22	Bladder diary, pad test, urodynamic test, quality-of-life (Incontinence Impact Questionnaire (IIQ)), and PFM strength	Exercise position did not affect outcomes. After data from both groups were collapsed, statistically significant improvements with treatment were observed in bladder diary, IIQ, PFM strength, and urodynamic test results. Discussion and Conclusion. Exercise position did not differentially affect treatment outcomes. However, women in this study achieved a mean 67.9% reduction in the frequency of SUI episodes and improvements in other study outcomes.	5/10	PEDro	ja	nein	ja	nein	nein	nein	nein	ja	ja	ja	
Hui	2006	Management of urinary incontinence in older women using videoconferencing versus conventional management: a randomized controlled trial.	RCT 1b	video-conferencing	conventional management	8 weeks	58 31/27	incontinence symptoms, pelvic floor muscle strength	Participants in both treatment groups experienced significant improvement in their symptoms, namely, a reduction in the number of daily incontinence episodes ($P<0.001$) and voiding frequency ($P<0.001$), while the volume of urine at each micturition increased ($P<0.005$). Pelvic floor muscle strength as measured by the Oxford Score also improved ($P<0.005$). There were no significant differences in outcomes between the two groups.	5/10	PEDro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja	
Williams	2006	A randomized controlled trial of the effectiveness of pelvic floor therapies for urodynamic stress and mixed incontinence.	RCT	1. PFMT 2. Vaginal cone therapy (VCT)	'standard care' in the form of a leaflet detailing the location of PFM and three steps to exercising these muscles, i.e. PF-awareness	3 month	238 79/80/79	frequency of primary UI episodes	pad-test urine loss, patient perception of problem, assessment of PF function, voiding frequency, and pad usage	All three groups had a moderate reduction in UI episodes after intervention but there was no statistically significant difference among the groups. There were marginal improvements in voiding frequency for all groups, with no statistically significant difference among them.	7/10	PEDro	ja	ja	ja	nein	nein	nein	ja	ja	ja	
Bø	2005	Lower urinary tract symptoms and pelvic floor muscle exercise adherence after 15 years.	RCT	pelvic floor training intensive exercise	pelvic floor training at home	follow-up after 15 years	47 21/26	Postal questionnaire containing demographic characteristics, general health status, interval surgical history, lower urinary tract symptoms, severity of symptoms, quality of life, satisfaction, and current status of pelvic floor muscle training.	There were no differences in any urinary outcomes or satisfaction between the 2 study groups as a whole or when restricted to those without intervening stress urinary incontinence surgery. One half of both groups had stress urinary incontinence surgery during the 15-year follow-up period. Twenty-eight percent performed pelvic floor muscle training at least weekly; this rate did not differ by original group assignment or operated status. More operated women reported severe incontinence ($P = .03$) and leakage that interfered with daily life ($P = .04$) than did nonoperated women. There were no other differences between operated and nonoperated women.	15-Jahre follow-up 5/10	PEDro	nein	nein	nein	nein	nein	nein	ja	ja	ja	ja	
Ghoniem	2005	A randomized controlled trial of duloxetine alone, pelvic floor muscle training alone, combined treatment and no active treatment in women with stress urinary incontinence.	RCT 1b	1. Duloxetine + imitation PFMT 2. Duloxetine + PFMT 3. Placebo + PFMT Placebo + imitation PFMT		12 weeks	201 52/52/50/47	incontinence episode frequency (IEF)	number of continence pads used, the validated Incontinence Quality of Life (I-QOL) questionnaire score, and the rating from the validated Patient Global Impression of Improvement scale ¹⁸ (PGI-I)	The intent to treat population incontinence episode frequency analysis demonstrated the superiority of duloxetine with or without PFMT compared with no treatment or with PFMT alone. However, pad and Incontinence Quality of Life analyses suggested greater improvement with combined treatment than single treatment. A completer population analysis demonstrated the efficacy of duloxetine with or without PFMT and suggested combined treatment was more effective than either treatment alone.	Medikament im Vergleich zu PFMT 5/10	PEDro	ja	nein	ja	ja	nein	nein	nein	ja	ja	ja
Liebergall-Wischnitzer	2005	Paula method of circular muscle exercises for urinary stress incontinence—a clinical trial.	RCT 1b	circular muscle training (Paula method)	Pelvic floor muscle training		63 32/31	reports of incontinence, quality of life (I-QOL), pad test, and pelvic floor muscle strength (assessed by perineometer and digital examination)	Both the Paula exercises and pelvic floor training produced significant changes in urinary leakage compared to baseline as measured by the pad test [mean decrease of 5.4 g ($p=0.002$) and 9.5 g ($p=0.003$), respectively]. Women randomized to the Paula method reported improvement in I-QOL scores. The Paula method was found to be efficacious for SI in a population of Israeli women.	5/10 Scheint der Pilot für die Studie vom 2009 zu sein!	PEDro	ja	ja	nein	nein	nein	nein	ja	nein	ja	ja	

Tibaek	2005	Pelvic floor muscle training is effective in women with urinary incontinence after stroke: a randomised, controlled and blinded study.	RCT	Pelvic Floor Muscle Training (PFMT)	no special treatment	12 weeks	26 14/12	diary recording the frequency of voiding, the number of incontinence episodes and used pads; 24-hr home pad test; and vaginal palpation of pelvic floor muscle evaluating function, strength, static and dynamic endurance	A significant improvement in frequency of voiding in daytime (Treatment Group/Control Group: 7/8 at pre-test, 6/9 at post-test (median values), P=0.018), 24-hr pad test (Treatment Group/Control Group: 8/12 to 2/8 g P=0.013) and dynamic endurance of pelvic floor muscle (Treatment Group/Control Group: 11/20 to 20/8 contractions of Pelvic Floor Muscle, P=0.028) was demonstrated in the Treatment Group compared to the Control Group. A significant improvement in frequency of voiding in daytime (decreased from seven to six, P=0.036), pelvic floor muscle function (P=0.034), strength (P=0.046), static endurance increased from 9 to 30 sec (P=0.028) and dynamic endurance increased from 11 to 20 contractions (P=0.020) was also demonstrated within the Treatment Group, but not in the Control Group.	7/10	PEDro	ja	ja	ja	nein	nein	ja	ja	nein	ja	ja
Aukee	2004	The effect of home biofeedback training on stress incontinence.	RCT	pelvic floor training (PFT) with the aid of a home biofeedback device	pelvic floor training alone	12 weeks 1-year follow-up	35 16/19	Electromyographic (EMG) results	in the home biofeedback training group 11/16 (68.8%) avoided surgery vs. 10/19 (52.6%) in the PFT alone group. The difference was not statistically significant. In the nonoperated home biofeedback group the increase in pelvic floor muscle activity (p = 0.005 in supine, p = 0.005 in standing) and the decrease in leakage index (p = 0.05) was significant after 12 weeks and pelvic floor activity remained constant. By contrast, in the nonoperated PFT group the increase in pelvic floor muscle activity after 12 weeks predicted a good result for conservative treatment.	1-year follow-up (siehe auch Aukee 2002) 6/10	PEDro	ja	nein	ja	nein	nein	nein	ja	ja	ja	ja
Barroso	2004	Transvaginal electrical stimulation in the treatment of urinary incontinence	RCT	Transvaginal electrical stimulation	Placebo	day (20-min) 12 weeks	36 24/12	Number of uninhibited contractions (NUB); maximum bladder capacity (MBC); first desire to void (FDV); Number of total voids (NTV); Number of nocturnal voids (NNV); Number of urinary incontinence episodes; Number of episodes of voiding urgency (NVU);	The mean time of use of TES was similar in both groups (approximately 40 h); the treatment group had a significant increase in maximum bladder capacity (P < 0.02), a significant reduction in the total number of voids (over 24 h; P < 0.02), in the number of episodes of voiding urgency (P < 0.001) and, importantly, in the number of episodes of urinary incontinence (P < 0.001). At the first evaluation, after ending the treatment, 88% of the patients had a significant reduction in symptoms or went into remission. At the 6-month re-evaluation, a third of the patients required another therapeutic approach.	stress, urge and mix 7/10	PubMed	ja	nein	ja	ja	nein	ja	ja	nein	ja	ja
Dumoulin	2004	Physiotherapy for persistent postnatal stress urinary incontinence: a randomized controlled trial.	RCT	1. multimodal pelvic floor rehabilitation 2. multimodal pelvic floor rehabilitation with abdominal muscle training	non-pelvic floor rehabilitation	8 weeks	64 21/23/20	modified 20-minute pad test Visual Analog Scale describing the perceived burden of incontinence, the Urogenital Distress Inventory, the Incontinence Impact Questionnaire, and pelvic floor muscle function measurements	At follow-up, more than 70% of the women in the treatment groups (14/20 in the pelvic floor and 17/23 in the pelvic floor plus abdominal group) were continent on pad testing compared with 0% of women in the control group. Scores on the pad test, Visual Analog Scale, Urogenital Distress Inventory, and Incontinence Impact Questionnaire improved significantly in both treatment groups (all P < .002), whereas no changes were observed in the control group. Pelvic floor muscle function, however, did not improve significantly in either active group.	6/10	PEDro	ja	nein	ja	nein	nein	ja	ja	nein	ja	ja

Aksac	2003	Biofeedback and pelvic floor exercises for the rehabilitation of urinary stress incontinence.	RCT	1. PFM exercises via digital palpation and instructed to perform regularly as home program 2. PFM exercises via biofeedback	no exercises	three times a week for 2 months	50 20/20/10	perineometry, digital palpation based PFM strength, incontinence frequency, and visual analog scale based social activity index		The rise in PFM strength with perineometry of the biofeedback group was higher than in the digital palpation group after treatment ($p < 0.001$). PFM exercises are effective for the treatment of USI; the biofeedback method revealed better PFM strength results with respect to digital palpation.	5/10	PEDro	nein	ja	ja	nein	nein	nein	nein	nein	ja	ja	
Goode	2003	Effect of behavioral training with or without pelvic floor electrical stimulation on stress incontinence in women: a randomized controlled trial.	RCT	1. behavioral training 2. behavioral training plus home Pelvic floor electrical stimulation	self-administered behavioral treatment using a self-help booklet	8 weeks	200 66/67/67	percentage reduction in the number of incontinent episodes as documented in bladder diaries	patient satisfaction and changes in quality of life	intention-to-treat analysis showed that incontinence was reduced a mean of 68.6% with behavioral training, 71.9% with behavioral training plus PFES, and 52.5% with the self-help booklet ($P = .005$). In comparison with the self-help booklet, behavioral training ($P = .02$) and behavioral training plus PFES ($P = .002$) were significantly more effective, but they were not significantly different from each other ($P = .60$). The PFES group had significantly better patient self-perception of outcome ($P = .001$) and satisfaction with progress ($P = .02$). Significant improvements were seen across all 3 groups on the Incontinence Impact Questionnaire but with no between-group differences.	5/10	PEDro	ja	nein	ja	nein	nein	nein	nein	nein	ja	ja	ja
Lo	2003	Additive effect of interferential therapy over pelvic floor exercise alone in the treatment of female urinary stress and urge incontinence: a randomized controlled trial	RCT 2b	interferential therapy plus pelvic floor exercises	pelvic floor exercises only	4 weeks for three times a week	24 12/12	Perineometer, pad test, Frequency, Nocturia, urinary diaries		Significant improvements were observed in all the outcome variables in the experimental group, but in only the perineometer readings in controls. When the changes from pre- to post-treatment were compared between the two groups, four of the dependent variables did not reach statistical significance. Power analysis indicated that the sample size for each group needed to be 70 for all results to be statistically significant. This study shows that interferential therapy plus pelvic floor exercise appears to be a more effective treatment modality than pelvic floor muscle strengthening exercise alone for incontinence, but a larger trial with longer followup is needed before definitive conclusions can be reached.	kleine Gruppen 7/10	PEDro	ja	ja	nein	nein	nein	ja	ja	ja	ja	ja	
Moor	2003	Randomised controlled trial of nurse continence advisor therapy compared with standard urogynaecology regimen for conservative incontinence treatment: efficacy, costs and two year follow up.	RCT 2b	nurse continence advisor group	treatment by urogynaecologists	12 weeks	145 74/71	One-hour pad test, frequency volume charts, a 20-point incontinence score and two quality of life tests, staff treatment times and costs.		There was no significant difference between clinician groups for change in pad test result ($P = 0.71$), voids/day (0.43), incontinence score ($P = 0.57$) or quality of life scores (urogenital distress inventory, $P = 0.27$; Incontinence Impact Questionnaire, $P = 0.41$). Despite the expected longer consultation times for the advisor group (median 160 min, interquartile range [IQR] 130-210) versus the urogynaecologist group (median 90 min, IQR 60-120), the per capita labour cost for advisor treatment (median AUS\$59.20, IQR 48.10-77.70) was lower than for treatment given by urogynaecologists (median cost AUS 189.70, IQR 120.60-250.70, Mann-Whitney U test, $P < 0.0001$). At 2.5 years, 23/58 patients (40%) treated by advisor and 27/52 patients (52%) treated by urogynaecologist group, who had been cured and discharged, were available for contact. Of these, 29% of women in the nurse continence advisor group and 41% of those treated by urogynaecologists remained continent (on 20-point score). Quality of life improvement persisted equally in both groups. These data should be interpreted cautiously due to a 24% dropout rate.	Eher eine ökonomische Fragestellung. 6/10	PEDro	nein	ja	ja	b	nein	nein	nein	ja	ja	ja	

Aukee	2002	Increase in pelvic floor muscle activity after 12 weeks' training: a randomized prospective pilot study.	RCT	pelvic floor training (PFT) with the aid of a home biofeedback device	pelvic floor training alone	12 weeks	35/16/19	Electromyographic (EMG) results	According to the data analysis, muscle forces increased significantly in both supine (P = 0.001) and standing (P = 0.003) positions. In the supine position, the increase was significantly higher in the biofeedback group (P = 0.024). The results showed close to a significant decrease in the leakage index in the biofeedback group (P = 0.068), but in the PFMT-alone group, no change occurred. With respect to the pad test, the decrease was significant, but it was the same for both groups (P = 0.907).	6/10	PEDro	ja	nein	ja	nein	nein	nein	ja	ja	ja		
Dougherty	2002	A randomized trial of behavioral management for continence with older rural women.	RCT 2b	behavioral management for continence (BMC)			218	pad test	episodes of urine loss, micturition frequency, voiding interval, quality of life, and subjective report of severity	At 2 years the BMC group UI severity decreased by 61%; the control group severity increased by 184%. Selfmonitoring and bladder training accounted for most of the improvement.	2-years follow-up 5/10	PEDro	ja	nein	ja	nein	nein	nein	nein	ja	ja	ja
Mørkved	2002	Effect of adding biofeedback to pelvic floor muscle training to treat urodynamic stress incontinence	RCT 1b	pelvic muscle exercise + biofeedback	pelvic muscle exercise	6 months	103/53/50	pad test with standardized bladder volume and self-report of severity		Women training with and without biofeedback showed a statistically significant reduction in leakage on pad test (P < .01) after 6 months of pelvic floor muscle training. Objective cure (2 g or less of leakage) in the total group was 58% in women training with and 46% in women training without biofeedback, and in the subgroup of women with urodynamic stress incontinence alone, 69% in women training with and 50% in women training without biofeedback. There was no statistically significant difference between the groups posttreatment in any outcome measure.	8/10	PEDro	ja	ja	ja	nein	nein	ja	ja	ja	ja	ja
Reilly	2002	Prevention of postpartum stress incontinence in primigravidae with increased bladder neck mobility: a randomised controlled trial of antenatal pelvic floor exercises.	RCT	supervised Pelvic floor muscle training (PFMT)	no treatment	3 month	268/139/129	Subjective reporting of stress incontinence at three months postpartum. Pelvic floor strength, using perineometry, and bladder neck mobility measured by perineal ultrasound		Fewer women in the supervised pelvic floor exercise group reported postpartum stress incontinence, 19.2% compared with 32.7% in the control group (RR 0.59 [0.37-0.92]). There was no change in bladder neck mobility and no difference in pelvic floor strength between groups after exercise, although all those developing postpartum stress incontinence had significantly poorer perineometry scores than those who were continent.	6/10	PEDro	ja	nein	nein	nein	nein	ja	ja	ja	ja	ja
Subak	2002	The effect of behavioral therapy on urinary incontinence: a randomized controlled trial.	RCT	behavioral therapy group	no treatment	six weekly instructional sessions	152/77/75	number of incontinent episodes per week	number of diurnal and nocturnal voids per week	Women in the treatment group experienced a 50% reduction in mean number of incontinent episodes recorded on a 7-day urinary diary compared with a 15% reduction for controls (P = .001). After behavioral therapy, all women had a 40% decrease in mean weekly incontinent episodes (P = .001), which was maintained over 6 months (P < .004). Thirty (31%) women were 100% improved (dry), 40 (41%) were at least 75% improved, and 50 (52%) at least 50% improved. There were no differences in treatment efficacy by type of incontinence (stress, urge, mixed) or group assignment (treatment, control).	stress, urge, mixed incontinence 5/10	PEDro	ja	ja	ja	ja	nein	nein	nein	nein	ja	ja

Theofrastous	2002	Effects of pelvic floor muscle training on strength and predictors of response in the treatment of urinary incontinence.	RCT 1b	pelvic muscle exercise	bladder training	12 weeks	134 69/68	Urinary diaries, urodynamic evaluation, and vaginal pressure measurements by using balloon manometry	Both treatment groups had a reduction in incontinent episodes ($P < 0.004$). Vaginal pressures increased more with pelvic floor muscle training than with bladder training ($P = 0.0003$). Other than a weak correlation between a reduction in incontinent episodes/week and an increase in maximum sustained vaginal pressure in women with GSI ($r = 0.32$, $P = 0.04$), there were no significant correlations between increases in pelvic floor muscle strength and improvement in continence status. There were no significant correlations between baseline demographic characteristics, clinical incontinence severity, or urodynamic measures and increases in vaginal pressure or improvement in clinical severity after pelvic floor muscle training.	5/10	PEDro	nein	nein	ja	nein	nein	ja	ja	nein	ja	ja	
Arvonen	2001	Effectiveness of two conservative modes of physical therapy in women with urinary stress incontinence	RCT	pelvic floor muscle training with vaginal balls	pelvic floor muscle training without vaginal balls	4 month	37 18/19	pad-test with a standardized bladder volume, vaginal palpation, and by women's self-reported perceptions	Both training modes were effective in reducing urinary leakage: with vaginal balls ($P < 0.0001$) and without ($P < 0.019$); and increasing pelvic floor muscle strength: with vaginal balls ($P < 0.0039$) and without ($P < 0.0002$). However, the reduction of urinary leakage after four months of exercise in the training group with vaginal balls was significantly better ($P < 0.03$) than the results in the group training with pelvic floor muscle exercises alone.	5/10	PEDro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja	
Demain	2001	Comparison of group and individual physiotherapy for female urinary incontinence in primary care: pilot study	RCT 2b	3 educational group physiotherapy session	one individual 45-minute physiotherapy		39 20/19	perineal pad test, seven-day bladder chart, incontinence impact questionnaire and symptom severity index and visual analogue scale (VAS)	After treatment both groups had, on average, improved over baseline on all outcome measures. Group treatment (which was more cost-effective) appeared better for self-rated symptoms than individual sessions, but this did not reach statistical significance.	kleine Gruppen 6/10	PEDro	ja	nein	ja	nein	nein	ja	ja	nein	ja	ja	
Janssen	2001	The effects of physiotherapy for female urinary incontinence: individual compared with group treatment.	RCT 1b	individual physiotherapy	group physiotherapy	9 month	530 126/404	objective changes in the severity of incontinence, frequency of urine loss and frequency of nocturnal urine loss	There were no significant differences in effect between the groups; after individual treatment the severity of incontinence improved in 60% of the patients and the mean (95% confidence interval, CI) frequency of urine loss decreased, by $\times 8.7$ ($\times 6.4$ to $\times 11.1$) times/week. After group therapy continence improved in 57% and the frequency of urine loss decreased, by ± 8.4 ($\times 6.8$ to $\times 10.0$) times/week. For women who had nocturnal urine loss (at baseline), the frequency decreased after individual treatment by $\times 11.2$ ($\times 4$ to $\times 26.4$) and after group therapy by $\times 14$ ($\times 9.1$ to $\times 18.9$) times/month. All improvements persisted in full for up to 9 months.	6/10	PEDro	ja	nein	ja	nein	nein	nein	ja	ja	ja	ja	ja
Johnson	2001	Effects of submaximal exercise protocol to recondition the pelvic floor musculature	RCT 2b	submaximal voluntary contraction (SVC) exercise	near-maximal voluntary contraction (NMVC) exercise	6 weeks	32 16/16	endurance, muscle contraction strength, muscle activity recruitment, 10-hour weighed pad test for grams of urine loss, and subject-rated severity and frequency of leakage episodes	Increases in muscle contraction strength ($t = 1.75$; $p = 0.045$) and decreases in grams of urine leakage ($t = -1.86$; $p = 0.036$) were significant for the SVC group. No significant differences were found between the groups for changes in endurance, muscle activity recruitment, frequency of leakage episodes, or subject-rated severity of urine loss based on a 7-point Likert scale.	kleine Gruppen 5/10	PEDro	nein	nein	ja	nein	nein	nein	ja	nein	ja	ja	

Wong	2001	Biofeedback of pelvic floor muscles in the management of genuine stress incontinence in Chinese women: randomised controlled trial	RCT	EMG attached over their abdominal muscles	without EMG	4 weeks	38 19/19	leakage diary, one-hour pad test and subjective evaluation of life impact and symptom distress by the Short Form Incontinence Impact Questionnaire (IIQ-7) and Urogenital Distress Inventory (UDI-6)	After four weeks of training, both groups showed reduction in frequency of incontinence and quantity of urine loss, and improvement in quality of life and symptom distress levels. However, there were no differences between the groups with the exception of subjective measures. The results suggest that IIQ-7 can be used as an outcome measure for treatment of USI in this population.	5/10	PEDro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja	
Bø	2000	Randomized controlled trial on the effect of pelvic floor muscle training on quality of life and sexual problems in genuine stress incontinent women.	RCT 1b	pelvic floor muscle exercise	untreated	6 month	59 29/30	Norwegian version of the Quality of Life Scale (QoLS-N) and the Bristol Female Lower Urinary Tract Symptoms (B-FLUTS) questionnaire	The results showed that general quality of life measured by the generic quality of life questionnaire was not much affected by urinary incontinence. However, the disease specific questionnaire demonstrated that ability to participate in physical activity and some sex-life variables were affected by the condition. There was a statistically significant (p<0.01) reduction in number of women having problems with sex-life, social life, and physical activity in the exercise group after six months of pelvic floor muscle exercise.	5/10	PEDro	nein	nein	ja	nein	nein	nein	ja	nein	ja	ja	
Jeyaseelan	2000	An evaluation of a new pattern of electrical stimulation as a treatment for urinary stress incontinence: a randomized, double-blind, controlled trial	RCT 2b	electrical stimulation	sham	8 weeks	27 13/14	permeometry, digital assessment and pad testing. The following were only used pre and post treatment: seven-day frequency/volume chart, SF-36, the Incontinence Impact Questionnaire and the Urogenital Distress Inventory.	No significant between-group differences were highlighted except when quality of life was assessed with the Urogenital Distress Inventory (p = 0.01). A significant reduction in scores was observed in the stimulation group (p = 0.03). However, improvements were seen in both the strength and endurance characteristics of the pelvic floor musculature, although these changes were not translated into a reduction in symptoms.	kleine Gruppen 6/10	PEDro	nein	nein	ja	nein	nein	ja	ja	nein	ja	ja	
Bø	1999	Single blind, randomised controlled trial of pelvic floor exercises, electrical stimulation, vaginal cones, and no treatment in management of genuine stress incontinence in women.	RCT	1. pelvic floor exercises 2. electrical stimulation 3. vaginal cones	no treatment	6 month	122 29/32/29/32	Pad test with standardised bladder volume, self report of severity	Improvement in muscle strength was significantly greater (P=0.03) after pelvic floor exercises (11.0 cm H2O [95% confidence interval 7.7 to 14.3] before v 19.2 cm H2O [15.3 to 23.1] after) than either electrical stimulation (14.8 cm H2O [10.9 to 18.7] v 18.6 cm H2O [13.3 to 23.9]) or vaginal cones (11.8 cm H2O [8.5 to 15.1] v 15.4 cm H2O [11.1 to 19.7]). Reduction in leakage on pad test was greater in the exercise group (-30.2 g; -43.3 to 16.9) than in the electrical stimulation group (-7.4 g; -20.9 to 6.1) and the vaginal cones group (-14.7 g; -27.6 to -1.8). On completion of the trial one participant in the control group, 14 in the pelvic floor exercise group, three in the electrical stimulation group, and two in the vaginal cones group no longer considered themselves as having a problem.	8/10	PEDro	ja	ja	ja	nein	nein	ja	ja	ja	ja	ja	ja

Sampelle	1998	Effect of pelvic muscle exercise on transient incontinence during pregnancy and after birth.	RCT	standardized instruction in pelvic muscle exercise	routine care with no systematic pelvic muscle exercise instruction	12 month	46 22/24	Urinary incontinence symptoms were measured by questionnaire. Pelvic muscle strength was quantified by an instrumented gynecologic speculum.	Longitudinal analyses are reported for cases with complete data across time points. Diminished urinary incontinence symptoms were seen in the treatment group, with significant treatment effects demonstrated at 35 weeks' gestation (F[1, 43] = 4.36, p = 0.043), 6 weeks postpartum (F[1, 43] = 4.94, p = 0.032), and 6 months postpartum (F[1, 43] = 4.29, p = 0.044). A significant effect of initial pelvic muscle strength was demonstrated; ie, pelvic muscle strength at 20 weeks' gestation predicted significantly 12-months postpartum strength (F[1, 13] = 8.12, p = 0.014). Group differences in pelvic muscle strength were observed (the treatment group had greater strength at 6 weeks and at 6 months postpartum than did controls), but these differences were not statistically significant.	6/10	PEDro	ja	nein	ja	nein	nein	ja	nein	ja	ja	ja	
Wyman	1998	Comparative efficacy of behavioral interventions in the management of female urinary incontinence	RCT 1b	1. pelvic floor muscle training 2. bladder training 3. both		12 weeks	204 68/68/68	number of weekly incontinent episodes	pat weight, condition-specific quality of life (Incontinence Impact Questionnaire—Revised and Urogenital Distress Inventory), and patient perception of improvement and treatment satisfaction, which were evaluated using 5-point Likert-type scale.	The combination therapy group had significantly fewer incontinent episodes, better quality of life, and greater treatment satisfaction immediately after treatment. No differences among groups were observed 3 months later. Women with genuine stress incontinence had greater improvement in life impact, and those with detrusor instability had less symptom distress at the immediate follow-up; otherwise, no differences were noted by diagnosis, incontinence severity, or treatment site.	Gleiche Studienpopulation wie bei Elser. 5/10	PEDro	ja	nein	ja	nein	nein	nein	ja	nein	ja	ja
Knight	1998	Evaluation of neuromuscular electrical stimulation in the treatment of genuine stress incontinence	RCT 2b	1. home vaginal electrical stimulation + pelvic floor exercises and biofeedback 2. clinic vaginal electrical stimulation + pelvic floor exercises and biofeedback	pelvic floor exercises and biofeedback	6 month	70 25/24/21	pad test, permeometry, subjectiv assessment, compliance		61% were subjectively greatly improved or cured, and 64% had a reduction in urine loss of 75% or more at pad-testing. There were no statistically significant differences in outcome measures between the three groups. However, the greatest percentage of subjects greatly improved or cured subjectively (80%) and by pad-test (80%), were in the maximal stimulation group (n = 20). Subjects who received home stimulation had a lower success rate than either the clinic treatment or the control group.	5/10	PEDro	ja	ja	nein	nein	nein	nein	nein	ja	ja	ja

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Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen	
Prospective studies																		
Does delayed child-bearing increase the risk of levator injury in labour?	Dietz HP, Simpson JM	###	PAPER. Australian and New Zealand Journal of Obstetrics and Gynecology 2007; 47:491-495	not stated	801	1.4% not clinically examined, regarding urodynamics and ultrasound 56%	cross-sectional	no operation conducted	LAM integrity	history, clinically examination for POP, LAM integrity and strength (modified Oxford Scale),urodynamics, transperineal 3D/4D ultrasound	no control group		SUI not focus of this study,neither did they use the urodynamics results	Mc Nemar's chi-square sfor sidededness of defects, Student's t-test to compare age among those with and without defects.Chi-Square to test levator defects and categorical variables.Mantel-Haenszel for ordinal variables. Multivariable logistic regression to produce a model with age and vag.operative delivery as predictors of trauma. p <0.05 significant.SAS version 9	LAM defects found in 21.6 % vag.parous, increased odds of LAM trauma of approximately 10% for each year of delayed child-bearing	UI not focus, UI is only a descriptive parameter of the demographics		
Computer-aided diagnosis of urodynamic stress incontinence with vector-based perineal ultrasound using neural networks	Huang YL, Chen HY	###	PAPER. Ultrasound Obstet Gynecol 2007; 30: 1002-1006	not stated	48	none	cross-sectional	no operation conducted	perineal ultrasound for bladder neck mobility, funneling	urodynamics, perineal ultrasound and computer-aided vector based perineal us CAD system	12 without SUI but other urinary tract symptoms	p values? Descriptive statistics?	Clinical benefit ????	LABROC1.sensitivity, specificity, positive predictive value, negative predictive values for diagnostic accuracy. Az value,ROC	accuracy 91.7%,sensitivity 94.4%, specificity of 83.3%. ROC was 0.941.		clinical significance?	
Autologous myoblasts and fibroblasts for female stress incontinence: a 1-year follow-up in 123 patients	Mitterberger M, Marksteiner R, Margreiter E, Pinggera GM, Colleselli D, Frauscher F, Ulmer H, Fussenegger M, Bartsch G, Strasser H	###	PAPER. 2007 BJU International 100,1081-1085	Dr.Fussenegger is co-owner of IGOR, Dr.Strasser & Dr. Marksteiner are founders and co-owners of Innovacell Biotechnology- where autologous cells were grown. Dr. Margreiter, Innovacell employee, was responsible for cell cultures. Innovacell and IGOR provided the cells but did not play a role in study design, collection, analysis, interpretation of data, report writing and in the decision to submit the paper for publication	123	3.2% (4/123)	prospective	yes	transurethral ultrasound to assess distance between transducer and rhabdosphincter at rest and contraction, urethra thickness,contractility of rhabdosphincter	TUUS, urodynamics,q-tip test, EMG, I-QOL, TUUS guided injection of myoblasts into the rhabdosphincter, fibroblasts with collagen in urethral submucosa	no control group		transurethral ultrasound	mean with SD for numeric and as mean (range) for ordinal variables. Wilcoxon test to compare before and after treatment, p<0.05	79% (94 of 119) completely continent 13% (16/119) significant improvement and 8%(9/119) with slight improvement.I-Qol, Incontinence score, urethra thickness and thickness of rhabdosphincter increased,maxclosure pressure and EMG increased as well		No subgroups (those with recurrent SUI compared to primary SUI)	
Transurethral ultrasonography-guided injection of adult autologous stem cells versus transurethral endoscopic injection of collagen in treatment of urinary incontinence	Strasser H, Marksteiner R, Margreiter E, Mitterberger M, Pinggera GM, Frauscher F, Fussenegger M, Kofler K, Bartsch G	###	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted
Autologous myoblasts and fibroblasts versus collagen for treatment of stress urinary incontinence in women: a randomised controlled trial	Strasser H, Marksteiner R, Margreiter E, Pinggera GM, Mitterberger M, Frauscher F, Ulmer H, Fussenegger M, Kofler K, Bartsch G	###	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted	retracted
Pelvic floor function in elite nulliparous athletes	Kruger JA, Dietz HP, Murphy BA	###	PAPER. Ultrasound Obstet Gynecol 2007;30:81-85	not stated	46 (24 HIFIT, 22 controls)	none	Case-control	no operation conducted	perineal 3D/4D us for levator hiatus and LAM thickness, descent of bladder neck, cervix and rectal ampulla	interview, 3D/4D us	22 healthy nullipara	matched according to age and BMI	SUI not focus of this study	power calculation, SPSS Version 12, p<0.05, t-tests between groups after normality testing. ICC to establish agreement between investigators	3 in HIFIT reported SUI and 2 UII. 2 of the controls had SUI+UII.Mean bladder neck descent was higher among HIFIT compared to controls, LAM hiatus greater among HIFITs	UI not focus	no results for bladder neck descent among incontinent compared to continent	
Urodynamic and ultrasound characteristics of incontinence after radical hysterectomy	Axelsen SM, Bek KM, Petersen LK	###	PAPER. Neurourology and Urodynamics 26:794-799 (2007)	not stated	100	none	Case-control-study	no	introital sonography for bladder neck mobility	standardized history, gynecological examination with palpation, urine culture, urodynamics and ultrasound	50 continent pat.	matching according to radical hysterectomy, age, time since op,parity including vaginal or cesarian section,HRT not for BMI, power calculation maybe insufficient	Power calculation performed which did not consider the match design! Wilcoxon's signed rank test. Bivariate associations with McNemar, categorial variables with more than two categories with odds ratios,adjusted for the pairing. Mean with range or SD; STATA version 8.2	elevated detrusor pressure in continent and incontinent women. Urethral pressure at rest among urge-incontinent women was lower compared to SUI or continent. Urethral pressure on contraction was lower among SUI compared to UII or continent. No differences regarding bladder neck mobility were found. 5 incontinent women had at least stage 2 prolapse as well as 1 continent woman. No differences regarding atrophy.		urethral pressure at rest and contraction		

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Tension-free vaginal tape versus transobturator tape as surgery for stress urinary incontinence: results of a multicentre randomised trial	Porena M, Costantini E, Frea B, Giannantoni A, Ranzoni S, Mearini L, Bini V, Kocjancic E	###	PAPER. European Urology 52 (2007) 1481-1491	no disclosures have been made	148	3/148	prospective, multicentre, randomised	pelvic statics ultrasound	not stated	history, clinical, neurological and urogynaecological examination; UDI-6 and IIQ-7, cough and Valsalva stress test, cotton swab test, 1 h pad test before surgery as well as 3day bladder diary, pelvic us, urodynamics. Postoperative FU at 3,6 and 12 months with UDI-6 and IIQ-7, free flowmetry and postvoid residual, VAS		beneficial; prospective; negative: significant more pat. with detrusor overactivity in TOT group	prospective, multicentre, high complication rate	power analysis performed, Kolmogorov-Smirnov test, Mann-Whitney U and Wilcoxon for ordinal and non-normally distributed data. McNemar, chi-square or Fishers exact for categorical parameters. Correlation checked with Spearman rho. SPSS version 13. P<0.05	14/75 complications in TOT group versus 13/70 complications in TVT group. 58/75 with TOT dry; 50/70 with TVT dry; 7/70 and 7/75 failures, voiding and storage symptoms improved with TOT. TOT as safe as TVT - but complications of around 20% in either group!!!		
[The role of perineal ultrasound compared to lateral cysturethrogram in urogynecological evaluations].	Shah W, Honeck P, Kwon ST, Badawi JK, Alken P, Bross S	###	PAPER. Aktuel Urol 2007; 38:144-147	not stated	98	none	cohort	no operation conducted	bladder neck mobility and retrovesicle angle	history, urodynamics, transperineal ultrasound and lateral cysturethrogramm	no control group	no statistics, no correlation of patients results with us and lateral cysturethrogram.		no	transperineal us assessment in rest possible in all patients and in 89 out of 98 on Valsalva maneuver. In those impossible cystoceles of at least grade II existed. With lateral cysturethrogram 81 out of 98 could be assessed in rest- those unable were adipose; assessment was possible in only 72 out of 98 on Valsalva due to adipositas or cystocele.		no statistics
Sexual function after tension-free vaginal tape procedure	Marszalek M, Roehlich M, Racz U, Metznerbauer M, Pontholzer A, Rauchenwald M, Madersbacher S	###	PAPER. Urol Int 2007;78: 126-129	not stated	52	none	cross-sectional	ultrasound of the kidney	not stated	medical history, urin analysis, postvoid residual urine volume, us of the kidney and urodynamics preoperatively; questionnaire postoperatively	no control group	very low response rate (52/147 !!!) of 36.7% of whom 2 patients were excluded who had a failed procedure or TVT removal. No comparison of responders and non responders.	not representative response rate ! The two exclusions reduced the number of dissatisfied women, which might have a	SPSS version 8.0, differences calculated with Mann-Whitney U test, two-sided , p<0.05	15/52 dissatisfied with TVT. Only 21/52 women reported regular sex, 14% had (3/21) worsened sex life, 7/21 improved, 11/21 no change	only us of the kidney, parameter of us not defined, very low (biased?) response rate	
Ultrasound evaluation of dynamic responses of female pelvic floor muscles	Peng Q, Jones R, Shishido K, Constantinou CE	###	PAPER. Ultrasound Med Biol 2007 March; 33(3): 342-352	NIH grant	31 (9 SUI, 22 asymptomatic)	none	Case-control-study	no operation conducted	transperineal ultrasound, displacement of the anorectal angle during maneuvers (cough, PFMC)	digital palpation to confirm contraction of PFM, transperineal ultrasound	22 asymptomatic controls	matching variables?	exclusion criteria: absence of previous genitourinary surgery and no current pharmacotherapy for OAB??? I guess, they ment INclusion criteria	t-test - which one? One- sided or two-sided?, P? Statistical program?	the ARA movement differs in SUI and continent. In continent women, it has a small ventral before the caudal movement, whereas in SUI it only moves dorso-caudal during a cough	Statistics insufficient? Subject description	
Hormonal influence on periurethral vessels in postmenopausal incontinent women using Doppler velocimetry analysis	Jármay-Di Bella ZI, Girdo MJ, Di Bella V, Sartori MG, Szejnfeld J, Baracat EC, Lima GR	###	PAPER. Maturitas 56 (2007) 297-302	not stated	38	none	prospective, randomised	no operation conducted	transvaginal doppler velocimetry for periurethral vessels, doppler evaluation of the nearest artery to the urethral mucosa in the anterior periurethral region, resistance and pulsatility indices and value of the zero final diastolic frequency	urodynamics, transvaginal doppler	no control group	only oral application, no group with local estrogen application	Doppler	Mann-Whitney non-parametric test, p<0.05. Friedman test for differences between groups	increase number of periurethral vessels with estrogen therapy as well as with combined therapy and improvement of continence	how did they measure improvement of continence??	
Clinical experience with urethral retro-resistance pressure measurement: a prospective pre- and postoperative evaluation in women with stress urinary incontinence	Tunn R, Marschke J, Wildt B, Gauruder-Burmester A	###	PAPER. Neurourology and Urodynamics 2007;26 (2):262-262	not stated	48	none	cohort	yes	introital ultrasound to assess bladder neck mobility, posterior vesical angle, funneling of the urethra, residual bladder volume	history, gynecological examination, clinical stress test, urodynamics, introital us, retrograde urethral closure pressure measurement, modified pad test, King's Health Questionnaire and ICIQ	no control group	well defined inclusion and exclusion criteria, objective improvement of SUI verified via pad test	SAS. Student's t-test for differences between two variables or changes in one variable. Correlations between URP and BMI. No correlation between URP and pad-test or improved distress score. Funneling in 17/48 before and 2/48 after surgery. Pad test before surgery around 33g versus 3.2 after surgery, distress decreased, improvements as well on Kings Health Questionnaire				

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Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen
Vaginal birth and de novo stress incontinence: relative contributions of urethral dysfunction and mobility.	DeLancey JO, Miller JM, Kearney R, Howard D, Reddy P, Umek W, Guire KE, Margulies RU, Ashton-Miller JA.	###	PAPER. Obstet Gynecol 2007 August; 110(2Pt 1):354-362	NHS Grant, investigator support from the Office of Research on Women's Health and NICHD through SCOR on Sex and Gender Factors Affecting Women's Health	240		Case-control-study	no operation conducted	translabial us for bladder neck mobility, urethral sphincter anatomy and mobility with MRI	Q-tip test, translabial ultrasound, MRI 9-12 months postpartum, levator ani muscle strength measured with an instrumented strain-gauged speculum, POP according Baden-Walker	80 continent nullipara		Q-Tip, us and MRI, instrumented speculum for muscle strength assessment, conservative p value of 0.01	preplanned continous outcomes with one-way analysis of variance and unadjusted significance levels. 2-sample-t-test for continous pregnancy/delivery related variables to compare primipara groups. Chi-square from two-way-contingency tables to compare >2 groups. Fishers exact test used when assumptions for chi-square were not met. p of 0.01 significant. Logistic regression, ROC and Max-rescaled R-square. SAS/STAT Version 8	SUI women with higher BMI. Urethral closure in incontinent primipara lower (around 62.9cm H2O) than in primipara continent (around 83) and nullipara (around 90.3). Vesical neck descended 50% more in incontinent group, increased bladder neck mobility in primipara (40% greater compared to nullipara), greatest bladder neck mobility among SUI (51% > than in nullipara). Vesical neck movement during cough is the mobility parameter most associated with SUI (around 15.6 in incontinent P1, versus around 10.9 in continent P1 versus around 9.9 in nullipara). Low urethral closure pressure was the parameter most strongly associated with de novo SUI, but the model including urethral closure pressure and bladder neck mobility is strongest associated with SUI.		
The effects of duloxetine on urethral function and sphincter morphology	Athanasiou S, Chailha C, Digesu GA, Sotiropoulou M, Georgoulas N, Khullar V, Antsaklis A	###	PAPER. Int Urogynecol J (2007) 18:763-767	Dr. Athanasiou and Dr. Khullar recieved speaker's fee supported by Boehringer Ingelheim	54	36/54 (33.3%)	prospective, cross-sectional	no operation conducted	transvaginal us, rhabdosphincter thickness measured at 3 and 9 o'clock at the level of maximum urethral diameter	urethral retro-resistance pressure (URP), urethral pressure profilometry (UPP) and us at baseline and after 8 weeks; King's Health questionnaire and volume frequency chart at baseline. PGI-I at 8 weeks	no control group	beneficial: all women with urodynamic verified pure stress urinary incontinence BUT no numbers given for incontinence episodes after treatment		mean with SD; pre- and posttreatment results compared with Wilcoxon matched-pairs signed rank test. P<0.05. SPSS version 12.0	mean URP increased from 53.8 to 60.8, sphincter thickness increased from 1.8 to 2.0, increment of MUCP from 52.7 to 59.2, functional urethral length remained. Responders showed a greater improvement compared to non-responders. 10/36 had a worsened or equal condition under duloxetine treatment		the given improvements are still deviant from normal values of healthy controls (according to the cited literature in the discussion section)
Comparison of transperineal and transabdominal ultrasound in the assessment of voluntary pelvic floor muscle contractions and functional manoeuvres in continent and incontinent women	Thompson JA, O'Sullivan PB, Briffa NK, Neumann P	###	PAPER. Int Urogynecol J (2007) 18:779-786	Curtin University Postgraduate Scholarship Awards and Physiotherapy Research Foundation of Australia	120 (60 asymptomatic, 60 incontinent)	none	cross-sectional	no operation conducted	transperineal and transabdominal us for bladder neck and bladder base movements on PFM contraction, Valsalva, abdominal curl, prolapse	telephone interview with Incontinence severity index questionnaire and urinary symptoms questionnaire, questionnaire regarding PFM habits, transperineal and transabdominal us, vaginally assessment for prolapse	30 nulliparous asymptomatic, prolapse assessment according to ?	incontinent women devided regarding type of incontinence, not regarding parity	transperineal and transabdominal us	reliability with ICC and SEM for duplicate measures. 2-way repeated-measures ANOVA, one way ANOVA for separate tasks, post-hoc comparisons with linear contrasts. SPSS version 10.0, p>0.05 significant	No differences on PFM.		
Correlation between urodynamics and perineal ultrasound in female patients with urinary incontinence	Minardi D, Piloni V, Amadi A, El Asmar Z, Milanesi G, Muzzonigro G	###	PAPER. Neurourology and Urodynamics 26:176-182 (2007)	not stated	80 (66 patients, 14 controls)	none	prospective, controlled, single-blinded, cross-over study	no operation conducted	perineal and introital ultrasound, bladder neck mobility, urethral inclination, detrusor wall thickness at dome, funneling of bladder neck	history collection, physical examination, urodynamics and perineal and/or introital us	yes. 14 healthy controls	no a priori power calculation ?	women with prolapse or previous pelvic procedure were excluded	ANOVA, Bonferroni posthoc test, Spearman correlation test 2-tailed, concordance between us and urodynamics with Spearman correlation test with rho as index of correlation. p<0.05 significant	36/66 had SUI due to urethral hypermobility (SUI not a urodynamic diagnosis), 30 UUI. Detrusor pressure at max. flow and opening detrusor pressure as well as detrusor thickness are thicker among UUI. Among SUI the dynamic posterior urethral angle, urethral inclination and pubo-urethral distance are higher compared to UUI and controls. Urethral pressure profile parameters did not differ between the UUI, SUI and controls. Ultrasound more convenient than urodynamics for 4/5		All women with SUI had hypermobility? That is not correlating with the the clinical situation, isn't it? So commonly, the diagnosis is not based on the sonographic hypermobility but history+urodyna mics...
Ultrasonographic and Doppler velocimetric evaluation of the levator ani muscle in premenopausal women with and without urinary stress incontinence	Oliveira E, Castro RA, Takano CC, Bezerra LR, Sartori MG, Lima GR, Baracat EC, Girão MJ	###	PAPER. European Journal of Obstetrics & Gynecology and Reproductive Biology 133 (2007) 213-217	not stated	63 premenopausal women	none	Case-control-study	no operation conducted	introital us to assess urethral length and bladder neck, power doppler velocimeter to observe and measure flow in small levator ani muscle vessels	urodynamics in incontinent women, us in all	21 nulliparous women as group I served as control group	no a priori power calculation ?	Clinical benefit ????	non-parametric tests for differences in groups (Kruskal-Wallis or Mann-Whitney test), correlation between observers with Spearmans rho, chi-square for frequency of absent end diastolic shift. Analyze-it for Microsoft. P<0.05	cross-sectional area greater and absent end-diastolic shift more frequent in nulliparous and continent parous women compared to multiparous incontinent.		

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Funneling before and after anti-incontinence surgery--a prognostic indicator? Part 2: tension-free vaginal tape	Harms L, Emons G, Bader W, Lange R, Hilgers R, Viereck V	###	PAPER. Int Urogynecol J (2007) 18: 289-294	not stated	191	177/191 (7.3%)	prospective, cohort	yes	introital us to assess urethra funneling, tape position in regards of urethral length (in 1/3rds) and distance towards the urethra	patients history, 24-h voiding diary, clinical stress test, urodynamics, introital ultrasound	no control group	very "clean" study population		STATISTICA version 6.1, Wilcoxon-Mann-Whitney for at least ordinal scaled group comparisons, Pearson's exact for unpaired samples of categorical data, Mc Nemar's test for dichotomic data. Cure rates with Kaplan-Meier estimators, p<0.05	36 month FU cure rate was 89.5%, cure rate in preoperative funneling was 77.5% as opposed to 96.6% in the group without funneling. The continence rate was 57.5% in the persistent postoperative funneling vs. 96.2% in the group without postoperative		
The role of perineal ultrasound compared to lateral cystourethrogram in urogynecological evaluations	Shah W, Honeck P, Kwon ST, Badawi JK, Alken P, Bross S	###	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above
Is sensory urgency part of the same spectrum of bladder dysfunction as detrusor overactivity?	Haylen BT, Chetty N, Logan V, Schulz S, Verity L, Law M, Zhou J	###	PAPER. Int Urogynecol J (2007) 18:123-128	not stated	592	none	cross-sectional	no operation conducted	residual urinary volume	history, stress test, POP assessment, urodynamics and vaginal us	no control group	not all figures given, what about all those with SUI and mixed UI?no exclusion criteria mentioned, significance levels not given as well as the statistic program		non parametric tests (Wilcoxon or Krusal-Wallis test), significance levels ?, Statistical program ?	prevalence of both sensory and detrusor overactivity was 13%.	SUI not focus of this study.	
Correlation between urodynamics and perineal ultrasound in female patients with urinary incontinence	Minardi D, Piloni V, Amadi A, El Asmar Z, Milanese G, Muzzonigro G	###	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above	see above
Introital ultrasonography: a comparison of women with stress incontinence due to urethral hypermobility and continent women	Cassadó J, Pessarrodona A, Tulleuda R	###	ABSTRACT. Int Urogynecol J (2007) 18 (Supp 1):S25-S105	none	383 (245 continent, 138 incontinent)	none	cross-sectional, single-centre	no operation conducted	sliding (difference between the distance urethra-bladder neck U-BN at rest and under stress), distances symphysis urethra S-U	introital ultrasound	245 continent women			in abstracts not stated	three independent variables to distinguish between continent and incontinent women: sliding, distances S-U and U-BN. Sliding was best predictor, ROC with a threshold of 8mm showed sensitivity of 92%, specificity of 79.6% for SUI detection due to hypermobility		
Ultrasonographic and clinical correlations after three surgical anti-incontinence procedures (TOT, TVT, TVT-O)	Chene G, Tardieu AS, Mansoor A	###	ABSTRACT. Int Urogynecol J (2007) 18 (Supp 1):S25-S105	none	81/30 TOT, 28 TVT, 23 TVTO)	not stated	prospective, cohort study	none	width and the position of the tape from the bladder neck were measured in sagittal view. Angulation was measured at rest, Valsalva and maximum retaining in frontal view	clinical evaluations (?), quality of life assessment (?), uroflowmetry with residual measurement and introital sonography 4 months and 2 years after surgery		which clinical evaluation? POP-Q/atrophy?; quality of life assessment with validated questionnaires?? Any differences between FU at 4 months and 2 years?? In frontal view the shape was described similar as a "V" in both groups- which groups remains unclear, numbers not given for recurrent SUI, de-novo- urge or voiding symptoms, cure rate...	comparison of two transobturatoric tapes and a retopubic tape, short- and long-term FU	in abstracts not stated	regarding tape position no differences found. Closer angulation on Valsalva was associated with voiding disorders. Closer angulation at retaining associated with de novo urge. Larger angulation or horizontalization associated with recurrent SUI		
Reliability of the leak point pressure measurements using colour doppler imaging	Masata J, Martan A, Svabik K, Zvarova J	###	ABSTRACT. Int Urogynecol J (2007) 18 (Supp 1):S25-S105	none	98 with urodynamically proven SUI	none	cross-sectional	no operation conducted	position and mobility of bladder neck, colour doppler CDV to detect urinary leakage	transrectal ballon catheter to detect intraabdominal pressures, CDV	none	which ultrasound technique used? No results given regarding position and mobility of bladder neck, clinical relevance?? How reproducible, as no ICC are given?!		in abstracts not stated	in all patients urinary leakage was diagnosed.Measurements with coughing were less reproducible, differences between real-time investigation and slow-motion playback, the latter were lower.		clinical relevance?????
Changes in urethral mobility after childbirth	Shek KL, Dietz HP	###	ABSTRACT. Int Urogynecol J (2007) 18 (Supp 1):S25-S105	none	110 nullipara	37/110	prospective, cohort study	no operation conducted	urethral mobility; urethra divided into 5 equal segments, using coordinate system based on dorso-caudal margin of the symphysis pubis	transperineal ultrasound	none	high drop-out (37 corrupted datasets), insufficient sample sizes	comparison ante- and postpartum	in abstracts not stated, mentioned that sample size was insufficient to achieve statistical significance	40 normal vaginal deliveries, 24 Caesarian Section, 8 vacuum and 1 forceps.Increase in segmental urethral mobility in 5/6 points with a trend towards more marked changes with vaginal operative delivery.		sample size too small to gain statistical significances, which 5/6 points had increased mobility?
The urethral motion profile: a novel method to evaluate urethral support and mobility	Shek KL, Dietz HP	###	ABSTRACT. Int Urogynecol J (2007) 18 (Supp 1):S25-S105	none	52 nulligravid	eight/52	cross-sectional	no operation conducted	urethral mobility; urethra divided into 5 equal segments,vertical and horizontal distance from posterior- inferior margin of the symphysis pubis to the six urethra points	transperineal ultrasound	none	beneficial: Excellent ICC BUT applied formula is deviating from the one used in the nullipara- patient abstract by (x		in abstract statistical methods not explained	proximal urethra is more mobile than distal urethra, with point 5 & 6 the least mobile. Excellent ICC (of 0.93-0.99). Urethral mobility can systematically be evaluated with transperineal us.		deviating formula, formula has previously been validated as mentioned in nullipara-abstract but which one ?

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Initial experience with TVT-secur system procedure and the reason for persistent stress urinary incontinence	Martan A, Masata J, Svabik K	###	ABSTRACT. Int Urogynecol J (2007) 18 (Supp 1):S25-S105	supported by Grant Agency of the Ministry of Health of Czech Republic, grant NR/9216-3	25 women SUI treatment naive	not stated	cross-sectional	no	not precised, tape folding	perineal ultrasound, clinical evaluation	none	cure defined as? 5/15 complications in the hammock positioning group	TVT-S	in abstract statistical methods not explained	15 hammock positions, 10 in U-position. in hammock- position (intraobtur.): :3/15 tape folded; 1 /15 vaginal pain, 1/15 vaginal erosion; no complication in the u- position (retrosymph.). 88% cure rate		1/3 of patients had complications with the intraobturatoric application- the conclusion - approach that reduces peri- and postoperative complications- is unjustified !!
INVESTIGATION OF 2D REAL-TIME ULTRASOUND AS A MEASUREMENT TOOL IN A RANDOMISED CONTROLLED TRIAL OF PELVIC FLOOR MUSCLE TRAINING IN OLDER	Sherburn M, Bø K, Galea M	###															
Retrospective studies																	
Trans-obturator tape for incontinence: a 3-year follow-up	Al-Singary W, Shergill IS, Allen SE, John JA, Arya M, Patel HR	###	PAPER. Urol Int 2007;78:198-201	not stated	24	none	retrospective	not performed	residual urinary volume	clinical examination, ultrasound and subj.satisfaction at 3 and 12 months, ICIQ at 36 months	no control group	no urethra profiles, no leak point pressures	no numbers given for residual bladder volume	no stats	(19/24) 79.2% significant improvement, (16/24) 66.6% completely cured, (5/24) 20.8% failures. 4 vaginal perforations/erosions, 1 de novo urge		Abstract
Case reports																	
Simple sling resection and a second, intermediate polypropylene mesh for treatment of vaginal tape protrusion concurrent with recurrent urinary stress incontinence after TVT procedure	Lo TS, Lee SJ	###	PAPER. J.Obstet. Gynecol. Res. Vol.33, 5:739-742	not stated	1	none	case report	not declared	introital us for hypermobility of bladder neck, angulation of mid-urethra at straining, tape position, urethral length,	clinical examination with video urodynamics and introital us before tape removal and re-application as well as q-tip test and 1h pad test; clinical exam, urodynamics and us 6 months postop	no control group				cured		
Monarc transobturator sling system for the treatment of female urinary stress incontinence: results of a post-operative transvaginal ultrasonography.	Foulot H, Uzan I, Chopin N, Borghese B, Chapron C.	###	PAPER. Int. Urogynecol J (2007) 18:857-861	not stated	54	none	cross-sectional	not performed	transvaginal us for tape position, urethral length, distance between upper edge of sling and bladder neck	cough test, urodynamics in 52/54, us 5 months postoperative, postal questionnaire for satisfaction assessment	no control group	no measurements distance between urethra and tape, shape description (tension?)	chi-square or Fisher's exact for categorical variables. Analysis of variance for continue variables. 2-sided p<0.05. Stat view version 5	3/38 needed reoperation due to voiding dysfunction. 68% of TOT only, 70% of TOT and hysterectomy (mainly laparoscopic) were (very) satisfied,8 were disappointed ; in 44 pat. mid-urethral position		if patients require concomittant prolapse surgery we would commonly use the vaginal approach, which was the exception in this report. Therefore the tape positioning in concomittant prolapse surgery patients is not applicable to the generally situation.	
Lumbopelvic dysfunction and stress urinary incontinence: a case report applying rehabilitative ultrasound imaging	Painter EE, Ogle MD, Teyhen DS	###	PAPER. Journal of orthopaedic&spo rts physical therapy 37(8):499-504	none	1	none	case report	no operation conducted	transverse abdominal muscle at rest and abdominal drawing-in maneuver and bladder base lift	neurological exam,orthopaedic tests, abdominal us	no control group	SUI diagnosis due to pat.history, no urodynamics		none	no plain, no SUI		

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Prospective studies																	
The urethral motion profile: a novel method to evaluate urethral support and mobility	Shek KL, Dietz HP	###	J of Urology	yes; AMS, CCS, GE, Astellas, Bruei&Kjaer, Toshiba	n=54		retrospective Studie	volume ultrasound, 3D translab. US	6 Punkte entlang der Urethra und Messung deren Bewegung bei rest und max. Valsalva	Monarch suburethral sling			Valsalva ist vermutlich straining bei Dietz, da max. Exkursion der Blase und der Urethra		subj. Curerate 78%, Statistisch sign. Verringerung der Mobilität bei Punkt 2 und 4. Keine stat. Sign. Veränderung der Bewegungen von Blasenhalshals und distaler Urethra.		
Perineal ultrasound in the study of urethral mobility: proposal of a normal physiological range	Di Pietto L, Scalfa C, Torella M, Lambiase A, Cobellis L, Colacurci N	###	International Urogynecology Journal	nein	n=60	0	Normwerte bei 2 Gruppen: Vergleich von gesunden jungen Frauen und gesunden postmenopausalen Frauen	perineal ultrasound test by translabial technique using a convex probe of 3.5 MHz	pubic-urethral distance and inclination angle of the urethral axis	keine Intervention	keine Kontrolle			paired Student t test	pubic-urethral distance under stress in young women: 10-15 mm, inclination angle (urethral axis): 60 and 100°; Peri-postmenop. women: 15-18 mm, angle 80°-120°		
Clinical and ultrasonographic correlations following three surgical anti-incontinence procedures (TOT, TVT and TVT-O).	Chene G, Cotte B, Tardieu AS, Savary D, Mansoor A	###	International Urogynecology Journal	keine Angabe	n=81		Vergleich von nach 3 OP Methoden (TVT, TOT TVTO)	introital US mit vag. Sonde	tape position, angulation and mobility of tape	rest, Valsalva, max. PFM contraction	keine Kontrolle				Width, position and appearance of the tape were similar in all three groups, i.e. like a "V" at rest, round angulation on Valsalva and closed angulation at maximum retaining		closer angulation on Valsalva associated with voiding disorders; Closer angulation at retaining associated with de novo urge incontinence; Larger angulation at rest with recurrent SUI
Tape functionality: sonographic tape characteristics and outcome after TVT incontinence surgery	Kociszewski J, Rautenberg O, Perucchini D, Eberhard J, Geissbühler V, Hilgers R, Viereck V	###	Neurourology and Urodynamics	Daniele Perucchini — Speaker honorarium: Novartis, Astellas, UCB Pharma, and Pfizer. Others none	n=72	n=0	observierende Studie nach Intervention (mechanik)	introital US	Shape of the TVT	rest and during straining					62 dry, 6 sign. Improved, 4 failed - unchanged tape shape was associated with a poorer outcome (P ¼ 0.00038). Patients with flat tape at rest and during straining failed in 25% and patients with a permanent curved shape in 10%. Tapes näher als 3 mm zu Urethra - Komplikationen. - beste Ergebnisse mit Tapebewegung bei Pressen. Position zwischen mittlerer und		
The effect of duloxetine on urethral sphincter morphology	Duckett J, Patil A, Aggarwal I	###	Ultrasound Obstet	keine Angabe	n=15		Pilotstudie, Medikament	transperineal US	The urethral length and the width of the hypoechoic core (longitudinal smooth muscle, vascular plexus and urothelium) were assessed.	Duloxetingabe 40 mg/ 2 x tägl.	keine Kontrolle		Poor views were obtained of the striated muscle	keine Veränderung der urethra length (mean 29.4 mm before and 28.0 mm after treatment). There was a statistically significant increase in the mean width of the hypoechoic core of the urethra from 5.0 mm to 6.3 mm (P < 0.01)	After treatment the PGI-I score averaged 2.2, with 80% of women (12/15) recording an improvement in incontinence. Ten women (67%) stated that they were much better or very much better. Only three women scored 4 (no change). No woman recorded a worsening of incontinence.		
Effect of tension-free vaginal tape position on the resolution of irritative bladder symptoms in women with mixed incontinence	Duckett J, Aggarwal I, Patil A, Vella M	###	International Urogynecology Journal		n=76		observierende Studie	transperineal US	TVT position irritative bladder symptoms					power analyse vorher, sample size was calculated using a power of 80% to find a difference between the two samples = sample size of 76.	Using Spearman's correlation coefficient, there was no significant correlation between post-operative irritative lower urinary tract symptoms and the position of the TVT (p=0.35).		
Postvoid residual urine in women with stress incontinence	Tseng LH, Liang CC, Chang YL, Lee SJ, Lloyd LK, Chen CK	###	Neurourology and Urodynamics	none	n=107		prospektive Studie	Bladderscan	Postvoid Residual Urine	messung der Urinmenge mittels Katheter und Bladderscan erhoben					mean PVR volume was 62.8 ml by BS and 38.5 ml by catheterization	BS and cath. Gleich gut	
Comparison of the effect of transobturator tension free vaginal tape (TVT-O) and tension free vaginal tape (TVT) on the lower urinary tract an ultrasound study	Masata J, Martan A, Svabik K	###	IUGA		n=154 (101 underwent TVT, afterwards 53 TVT-o.		observational study mit Ultraschall	translabial US	urethra mit Ultraschall at 4 points: at urethrovesical junction (UVJ), 17 mm below UVJ (middle of the urethra) and one centimeter above and below this point (upper and lower third). - mobility of the whole urethra), changes of the proximal urethra (funneling) and of the thickness of the urinary bladder wall	TVT and TVT-o Operationen				same outcomes after TVT and TVT-o			
Can 2D translabial ultrasound be used to diagnose levator avulsion?	Dietz H, Shek K	###	IUGA														Abstract, Paper wurde 2009 geschrieben, Keine Frage der detection sondern Tatsache

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The quality of life after the prolapse surgery: a comparison of prolene mesh suspension with classical methods	Halaska M, Krcmar M, Feyreisl J, Krofta L, Martan A, Svabik K	###	IUGA													Thema ist das Outcome nach Mesh vs konventioneller OP. Belastungsinkontinenz ist nur ein Item in einer Tabelle ohne weitere Relevanz und Erwähnung.	
Prospective follow-up investigation of a specific pelvic floor rehabilitation program with focus on pre-concentration and coordination using a validated Pelvic Floor Questionnaire	Junginger B, Baessler K	###	IUGA s.o.													Perinealsono wird nur als durchgeführt angegeben, ist nicht selbst Thema. Hier geht es um ein spezielles Beckenbodentrainingsprogramm.	
Synthetic versus biological trans-obturator sling for stress urinary incontinence: a randomized study	Riva D, Baccichet R, Paparella L, Cianci A, Simonazzi M, Pisapia CG	###	IUGA													Sonographie wird hier nur erwähnt, ist aber nicht Gegenstand der Studie	
Retrospective studies																	
Clinical and ultrasonographic comparison of tension-free vaginal tape and transobturator tape procedure for the treatment of stress urinary incontinence	Long CY, Hsu CS, Liu CM, Lo TS, Wang CL, Tsai EM	###	J Minim Invasive Gynecol		n=82		Multicenter retrospective cohort study	per US		TVT (n = 53) or TVTO (n = 29) without concomitant surgery			urinalyses, 1-hour pad testing, perineal ultrasonography, and urodynamic studies, as well as validated questionnaires before and 1 year after surgery	Mean operative time was significantly shorter in the TVTO group (16.8 +/- 10.7 minutes vs 28.6 +/- 6.9min, p < .01, unpaired t-test). At rest or during Valsalva, the middle of the TVTO tape localized more distally than that of TVT on ultrasound scanning (p < .01; unpaired t-test). A higher rate of urethral kinking during straining was noted in the TVT group compared with the TVTO group after surgery (87% vs 25%, p < .01; chi2 test). After TVT, maximum urethral closure pressure increased significantly (83.6 +/- 24.6 cm H2O vs 69.2 +/- 25.9 cm H2O, p < .05), but this was not the case in the TVTO group (67.8 +/- 15.0 cm H2O vs 63.2 +/- 12.3 cm H2O, p > .05).	The subjective and objective cure rates were comparable for the TVT and TVTO groups (p = .085 vs .19, respectively; Fisher's exact test).		

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Levator trauma is associated with pelvic organ prolapse	Dietz HP, Simpson JM	###	BJOG		n=781		Retrospective observational study.	translab US	levator ani trauma	four-dimensional translabial ultrasound.				Women reported stress incontinence (76%), urge incontinence (69%), frequency (47%), nocturia (49%) and symptoms of prolapse (38%). Significant prolapse (stage II or higher) was diagnosed in 415 (53%) women, and 181 (23%) women were found to have levator avulsion defects. Prolapse was seen in 150/181 (83%) women with avulsion and in 265/600 (44%) women without avulsion, giving a relative risk (RR) of 1.9 (95% CI 1.7–2.1). The association was strongest for cystocele (RR 2.3, 95% CI 2.0–2.7) and uterine prolapse (RR 4.0, 95% CI 2.5–6.5).			Women with levator avulsion defects were about twice as likely to show pelvic organ prolapse of stage II or higher than those without.	
Ultrasonographic assessment of tape location following tension-free vaginal tape and transobturator tape procedure	Long CY, Hsu CS, Lo TS, Liu CM, Chen YH, Tsai EM	###	Acta Obstetrica et Gynecologica.	nicht erwähnt	n=159		vergleichende Studie	perinealer US	the width of the tape, the distance from bladder neck to proximal tip of tape, and the distance between the tape and urethral mucosa could be measured at rest and during Valsalva	TVT and TVT-O beides Gynecare	keine Kontrollgruppe		7 bladder outlet obstructions after TVT, 1 after TVT-O	perineal ultrasonographies, pelvic examination, urinalyses, 1-h pad tests, multichannel urodynamic studies and a personal interview using the Bristol Female Lower Urinary Tract Symptoms Questionnaire before and 1 year after surgery.				
Does levator trauma increase the risk of urodynamic stress incontinence?	Bedwell P, Shek K, Dietz H	###	IUGA	nicht erwähnt	n=420		retrospective observational study	4D translabial US							104 were found to have suffered an avulsion of the puborectalis muscle (25%).			
Case reports																		
Subtle renal duplication as an unrecognized cause of childhood incontinence: diagnosis by magnetic resonance urography	Lipson JA, Coakley FV, Baskin LS, Yeh BM	###	Journal of Pediatric Urology	none	n=2		case-report	keine Intervention	Darstellung von ektopem Urether/ infrasphinteric ectopic ureteral insertion bzw. Nierendublikation	MR urography	nein							
Use of transabdominal ultrasound imaging in retraining the pelvic-floor muscles of a woman postpartum	Ariall A, Sears T, Hampton E	###			n=1		case-report	trans-abdominal US (suprapubisch) Darstellung der Blase	Bewegung der Blase bei Anspannung gegenüber der Ruheposition	Beckenboden-reeducation	nein		keine validierte und standardisierte US Methode, aber gut für Biofeedback	keine Statistik	VAS, 3-day bladder diary, identical questionnaire form used at her previous admission, "functional continence with physical activity" questionnaire			
A late complication of transobturator tape: abscess and myositis	Leanza V, Garozzo V, Accardi M, Molino A, Conca M, Basile	###	Minerva Ginecol.		n=1		case-report											

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Prospective studies																	
Clinical and transperineal ultrasound findings in females with stress urinary incontinence versus normal	Hajebrahimi S, Azaripour A, Sadeghi-Bazargani H	###	Pak J Biol Sci 2009 Nov 1; 12(21): 1434-7 Paper	keine Angabe	80	0	matched groups/cross section	keine Operation vorgesehen	Perinealsonografie m. 3.5 MHz Sector Scanner	keine	40 gesunde Probandinnen	geringe Fallzahl		Sensitivität, Spezifität, PPV und NPV	Hypermobilität d. Urethra hat die höchste Sensitivität bzgl. HIK, Trichterbildung d. höchsten PPV (76%)		
Reliability of real-time ultrasound to detect pelvic floor muscle contraction in urinary incontinent women	Yang JM, Yang SH, Yang SY, Yang E, Huang WC	###	J Urol 2009 Nov; 162(5): 2392-6 Paper	keine Angabe	118	keine Angabe	Beobachtung/offene Untersuchung	keine Operation vorgesehen	Peinealsonografie, Messung v. BB-Kontraktionen und Klitorisbewegung	keine	keine	qual. Mängel im Studiendesign, schlecht def. Messparameter		Cohen Kappa		genügt nicht den Kriterien einer wiss. Untersuchung mit nachprüfbareren Messergebnissen	
Is ultrasound estimation of bladder weight a useful tool in the assessment of patients with lower urinary tract symptoms?	Papanayi DC, Khullar V, Digesu GA, Hendricken C, Fernando R, Tekkis P	###	Int Urogynecol J (2009) 20: 1445-1449 Paper	keiner	22	keine Angabe	Beobachtung/offene Studie	keine Operation vorgesehen	keine Angaben zum verwendeten Scanner, Ermittlung des Harnblasengewichts	keine	keine	keine Validierung der Messtechnik vor Anwendung		keine	Ultraschallgestützte Schätzung des Harnblasengewichts mit Ergebnissen urodyn. Untersuchungen korreliert; höheres Gewicht ist häufiger mit einer Urge-Inkontinenz verbunden	genügt nicht den Kriterien einer wiss. Untersuchung mit nachprüfbareren Messergebnissen	
Assessment of pelvic floor muscle contraction in stress urinary incontinent women: comparison between transabdominal ultrasound and perineometry	Chehrehrizi M, Arab AM, Karimi N, Zargham M	###	Int Urogynecol J (2009) 20: 1491-1496 Paper	keiner	28	keine Angabe	offene Studie	keine Operation vorgesehen	3.5 MHz Sectorscanner	keine	Wiederholung der Untersuchung nach 30min	geringe Fallzahl		Kolmogorov-Smirnov Test	Beide Ultraschallmethoden der Untersuchung der BB-Muskulatur sind gleichwertig	inexakte Messmethode, geringe Fallzahl	
The MiniArc sling system in the treatment of female stress urinary incontinence	Gauruder-Burmester A, Popken G	###	International Braz J Urol Vol. 35(3): 334-343 Paper	keiner	97	0	retrospektive Analyse	ja	Literatur-Verweis Int. Urogynecol J Pelvic Floor Dysfunction 2005	Mini-Arc® Einlage				deskriptiv	Kurzzeitergebnisse vergleichbar m. Standardprozeduren, hohe Rate an de novo Urge Inkontinenz	Bestätigt den Wert der Introitus-Sonografie zur Beurteilung der Lage eingebrachter Suburethralerschlingen	
Tension-free vaginal tape versus lata fascia sling: The importance of transvulvar ultrasound in the assessment of relevant anatomical parameters in treatment of women with stress urinary	Brandt FT, Lorenzato F, Albuquerque CD, Junior Ade S, de Carvalho Poça A, Viana RA	###	Indian J Urol 2009; 25: 62-7 Paper	keine Angabe	40	0	prospektive Längsschnittuntersuchung	7.5 MHz Scanner in Steinschnittlage		Fascia lata Schlinge vs. TVT Einlage	jeweils 20 Pat. In jeder Gruppe			Chi Quadrat Test, Fischer T-Test	Keine erkennbare Korrelation zwischen den Ergebnissen der Bildgebung und urodynamischen Messergebnissen		
Three-dimensional ultrasound of the urethral sphincter predicts continence surgery outcome	Digesu GA, Robinson D, Cardozo L, Khullar V	###	Neurourol Urodyn 2009; 28(1): 90-4 Paper	keiner	91	0	offene Untersuchung	keine Operation vorgesehen	7.5 MHz Sector Scanner f. 3-D Darstellung	Kolposuspension n. Burch				Mann-Whitney U-Test		Sphinktervolumen und positives Operationsergebnis sind positiv korreliert	
Bladder psoas hitch in hydronephrosis due to pelvic endometriosis: outcome of urodynamic parameters	Carmignani L, Ronchetti A, Amicarella F, Verellimi P, Spinelli M, Fedele L	###	Fertil Steril 2009 Jul: 35-40														keine Relevanz f.d. vorgegebene Thema
Transpubic access using pedicle tubularized labial urethroplasty for the treatment of female urethral strictures associated with urethrovaginal fistulas secondary to pelvic fracture	Xu YM, Sa YL, Fu Q, Zhang J, Xie H, Jin SB	###	Eur Urol 2009 Jul: 56(1):193-200														keine Relevanz f.d. vorgegebene Thema

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Protocol for the value of urodynamics prior to stress incontinence surgery (VUSIS) study: a multicenter randomized controlled trial to assess the cost effectiveness of urodynamics in women with symptoms of stress urinary incontinence in whom surgical treatment is considered	van Leijsen SA, Kluivers KB, Mol BW, Broekhuis SR, Milani FL, van der Vaart CH, Roovers JP, Bongers MY, den Boon J, Spaans WA, de Leeuw JW, Dietz V, Kleinjan JH, Brölmann HA, Roos EJ, Schaafsma J, Heesakkers JP, Vierhout ME	###	BMC Womens Health 2009 Jul 21; 9:22														Darstellung eines Studienprotokolls, keine Untersuchung
Retrospective studies																	
Does avulsion of the puborectalis muscle affect bladder function?	Dietz HP, Kirby A, Shek KL, Bedwell PJ	###	Int Urogynecol J (2009) 20: 967-972 Paper	ja	425	5	retrospektive Beobachtung	keine Operation vorgesehen	4-8 MHz Sector Scanner in 85 Grad Auflage auf den Damm	keine	keine			Chi Quadrat			Nachweis des LevatorabrisSES ist nicht mit dem Symptom HIK korreliert
"The cough game": are there characteristic urethrovesical movement patterns associated with stress incontinence?	Lewicky-Gaup C, Blaivas J, Clark A, McGuire EJ, Schaar G, Tumbarello J, Tunn R, DeLancey JO	###	Int Urogynecol J (2009) 20: 171-175 Paper	keiner	31	0	Bildbewertung durch ein Expertengremium	keine Operation vorgesehen	keine Angabe	keine	verblindete Wiederholung der Beurteilung	Chi Quadrat					Ungewöhnliche Studie mit ernüchternden Ergebnissen zur Reproduzierbarkeit von Expertenbeurteilungen
A tertiary experience of urethral diverticulectomy: diagnosis, imaging and surgical	Ockrim JL, Allen DJ, Shah PJ, Greenwell TJ	###	BJU Int 2009 Jun; 103(11): 1550-4 Paper	keiner	30	0										keine Relevanz f. die Fragestellung	
Collagen injection for female urinary incontinence after urethral or perirethral surgery	Isom-Batz G, Zimmern PE	###	J Urol 2009 Feb; 181(2): 701-4														Originalartikel nicht vorliegend
Case reports																	
Obstructive suburethral mass following injection of dextranomer/hyaluronic acid copolymer	Fatton B, Savary D, Velemir L	###	Int Urogynecol J (2007) 18: 1379-1380														
Which placement of the tension-free vaginal tape is more important for urinary continence: midurethral position or bladder neck? Consideration from a case report	Wang F, Song Y, Huang H	###	Int Urogynecol J (2009) 20: 1277-1279														
Cochrane reviews																	
Open retropubic colposuspension for urinary incontinence in women	Marie Carmela M Lapidan, June D Cody, Adrian Grant	###	Cochrane Database Syst Rev 2009 Apr 15; (2): CD002912	keine Angaben	4738		Evaluation von 46 Studien										Ergebnisse ohne Beziehung zur Fragestellung

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Prospective studies																	
Does levator avulsion increase urethral mobility?	Shek KL, Pirpiris A, Dietz HP.	###	Eru J Obstet Gynecol Reprod Biol	n/a	305	107	retrospective	transperinealer 4D Ultraschall	urethrale Mobilität	keine	keine			t-test	Levator avulsion was found in 18%, no significant association between urethral mobility and avulsion		
Urethral mobility and urinary incontinence	Pirpiris A, Shek KL, Dietz HP	###	Ultrasound Obstet Gynecol	none	305	107	retrospective	translabialer 4D Ultraschall	segmentale urethrale Mobilität	keine	keine	retrospective, mostly caucasian, incomplete urodynamic data, small sample size	Kombination mit Urodynamik	Kolmogorov-Smirnov, t-test	SUI, USI strongly associated with mobility of the mid-urethra		
Perineal ultrasound evaluation of urethral mobility after the TVT-O procedure	Di Pietro L, Scaffa C, Lambiase A, Torella M, Sciorio C, Dato E, Nocerino A, Di Pettillo ML, Fusco R, Rotondi M, Messalli EM, Colacurci N	###	Clin Exp Obstet Gynecol	n/a	12		prospective	static and dynamic perineal US	urethrale Mobilität	TVT-O	prä- und postop	sample size		n/a	all cases return to normal range of the pubic urethral distance		
How should bladder wall thickness be measured? A comparison of vaginal, perineal and abdominal ultrasound	Kuhn A, Bank S, Robinson D, Klimek M, Kuhn P, Raio L	###	NeuroUrol Urodyn.	n/a	125		prospective	vaginal, abdominal, perineal	bladder wall thickness	keine	keine			n/a	bladder wall thickness measurements to differ depending on the vaginal perineal or abdominal approach.		
Incontinence, bladder neck mobility, and sphincter ruptures in primiparous women	Jundt K, Scheer I, Schiessl B, Karl K, Friese K, Peschers UM	###	Eur J Med Res.	n/a	112	13	prospective	perineal, endoanal	mobility of bladder neck	Geburt	kontinente Kontrolle			n/a	mobility of bladder neck higher after vacuum, compared to vaginal birth or c-section. Higher in women with SUI		
The effect of childbirth on urethral mobility: a prospective observational study	Shek KL, Dietz HP, Kirby A	###	J Urol.	n/a	488	121	prospective	4D translabial	urethral mobility	Geburt			Widerspruch zum Artikel von Jundt	n/a	generalized increase in mobility after childbirth, only the proximal urethra associated with mode of delivery. No difference regarding SUI		
Correlation of introital ultrasound with LUTS after sling surgery	Mouracade P, El Abiad S, Roy C, Lang H, Jacqmin D, Saussine C	###	Int Urogynecol J	none	31		prospective	introital Ultrasound, 45 degree, 2D	deformed urethra, abnormal position	tape lysis	kene	small sample size		none	Obstructive symptoms disappeared in 86%, OAB in 66%, 89% LUTS and abnormal Ultrasound		
Transperineal ultrasound to assess the effect of tension-free vaginal tape position on flow rates	Duckett J, Basu M, Papanikolaou N	###	Ultrasound Obstet Gynecol	Sponsorship Ethicon, AMS	78	6	prospective	transperitoneal ultrasound 2D, postoperatively	location of the tape	TVT	keine	different tension		t-test	distally placed tapes cause less alteration in flow rates		
Tape functionality: position, change in shape, and outcome after TVT procedure—mid-term results	Kociszewski J, Rautenberg O, Kolben S, Eberhard J, Hilgers R, Viereck V	###	Int Urogynecol J	none	41		prospective	introital ultrasound	location, shape of the tape	TVT	keine			WMW, Perason's chi square	obstructive complications more often when tape-urethra distance less than 2mm		
Ultrasound measurement of bladder wall thickness is associated with the overactive bladder syndrome	Panayi DC, Tekkis P, Fernando R, Hendricken C, Kullar V	###	NeuroUrol Urodyn.	n/a	379		prospective	bladder wall thickness	bladder wall thickness	keine	keine			n/a	mean BWT associated with OAB, MUI, frequency, VAS		
Uterine leiomyomata associated with self-reported stress urinary incontinence	Dragomir AD, Schroeder JC, Connolly A, Kupper LL, Cousins DS, Olshan AF, Baird DD	###	Journal of Women's Health	none	836		prospective	ultrasound of fibroids, transvaginal, transabdominal	Myome ja oder nein, Größe		keine			univariate analysis	SUI prevalence increase with UL, larger increase associated with larger UL		
Does visceral peritoneal closure affect post-cesarean urinary symptoms? A randomized clinical trial	Shahin AY, Hameed DA	###	Int Urogynecol J	none	882	262	prospective randomized	perineal ultrasound	bladder vertical descend, PUV-angle, alpha	Sectio mit und ohne Verschluss des viszeralen Peritoneums	RCT		RCT	Chi Square, Fisher Exact	Frequency, leakage related to urgency and to physical activity more often if peritoneum was closed		
Mechanisms of pelvic floor muscle function and the effect on the urethra during a cough	Lovegrove Jones RC, Peng Q, Stokes M, Humphrey VF, Payne C, Constantinou CE	###	Eur Urol.	none, NIH grant	33	1 (OAB)	prospective feasibility study	perineal ultrasound	2D, PS, ARA,	introital ultrasound	SUI, continent			t-test	SUI with displacement of the urethra, PFM less		
Retrospective studies																	
The relationship between urethral mobility and parity	Dickie KJ, Shek KL, Dietz HP	###	BJOG	AMS, CCS, GE, Astellas, Toshiba	648		retrospective	3D translabial ultrasound	volume data set, mobility vector lengths	ultrasound and urodynamics	keine	retrospective		ANOVA, t-test	distal urethra is the least mobile part		
What harm does a second delivery to the pelvic floor?	Jundt K, Scheer I, von Bodungen V, Krumbachner F, Friese K, Peschers UM.	###	Eur J Med Res.	n/a	112	63	prospective	perineal, endoanal	bladder neck mobility and position at rest	Geburt				n/a	bladder neck at rest lower after deliveries, mobility increased after one or more deliveries		

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Prevalence of major levator abnormalities in symptomatic patients with an underactive pelvic floor contraction	Steensma AB, Konstantinovic ML, Burger CW, de Ridder D, Timmerman D, Deprest J	###	Int Urogynecol J	none	352		retrospective	2D/3D transperineal ultrasound	PFFMC, UPFFMC, NPFFMC	none	keine			Pearson chi-square, student -, MWU test	UPFFMC associated with increased prevalence of LAA and FI		
The urethral motion profile before and after suburethral sling placement	Shek KL, Chantarasorn V, Dietz HP	###	J Urol.	n/a	54		retrospective	volume ultrasound	urethral mobility	Monarc	prä- und postop.			n/a	mobility reduced, bladder neck not affected		
Clinical and pathophysiological correlates of the symptom severity of stress urinary incontinence	Yang JM, Yang SH, Yang SY, Yang E, Huang WC, Tzeng CR	###	Int Urogynecol J	none	124		retrospective	introital ultrasound	urethral position, funneling, urethral position					Spearman's rho, Kruskal-Wallis	Sonographie nicht signifikant		
The correlations of incontinence-related quality of life measures with symptom severity and pathophysiology in women with primary stress urinary incontinence	Huang WC, Yang SH, Yang SY, Yang E, Yang JM	###	World J Urol.	n/a	707		retrospective	urethral support	urethral support				QoL, UDI, IIQ		UDI correlated to funneling		
TVT SLING INCISION – INDICATIONS, OUTCOME, AND RECURRENT INCONTINENCE	Viereck V, Rautenberg O, Sell W, Kolben S, Kociszewski J, Eberhard J	###	ICS	n/a	174		retrospective	introital ultrasound	tape location, distance to the urethra	TVT sling incision	prä- und postop.			n/a	bladder voiding, dyspareunia, urge improved, 52% recurrent SUI		
Case reports																	
Hydronephrosis caused by ureterosciatic herniation	Hsu HL, Huang KH, Chang CC, Liu KL	###															
Cochrane reviews																	
Bladder neck needle suspension for urinary incontinence in women	Cathryn MA Glazener, Kevin Cooper	###	Cochrane Review	n/a	375	cochrane		n/a									
Minimally invasive synthetic suburethral sling operations for stress urinary incontinence in women	Joseph Ogah, June D Cody, Lynne Rogerson	###	Cochrane Review	n/a	7101	cochrane		n/a									
Laparoscopic colposuspension for urinary incontinence in women	Nicola Dean, Gaye Ellis, G Peter Herbison, Don Wilson	###	Cochrane Review														
Single-incision sling operations for urinary incontinence in women	Stephen T Jeffery, Peter De Jong, Zeelha Abdool, Frans Van Wijk, Vincent Lucente, Miles Murphy	###	Cochrane Review														

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Prospective studies Can we place tension-free vaginal tape where it should be? The one-third rule	Kociszewski J, Rautenberg O, Kuszka A, Eberhard J, Hilgers R, Viereck V.	###	PubMed	Keiner	102	Kein drop out	prospektiv, postoperatives Follow up nur 6 Monate	Introitussonographie in halb sitzender Position bei einer Blasenfüllung von 300 mL; 3,6-8,2 MHz Vaginalsonde mit 160° Radius	Postoperative Messung des Restharns, Messung der Band-LSM Distanz (longitudinal smooth muscle)	TVT standard Prozedur (operiert durch 4 Operateure) und präoperativer Ultraschall zur Festlegung der Bandposition durch Längenmessung der Urethra und Anwendung der Drittelregel; Urodynamik, Fragebogen, ...	Keine	Zu kurzes Follow up	Keine	Fisher's exact test	93,1% der Patientinnen geheilt und 6,9% gebessert. Bei 88,2% der Patientinnen ist die Bandlage zwischen 50 und 70% der Urethralänge und damit im gewünschten Bereich. Abstand zum LSM bei 12 Patientinnen >5 mm und bei 6 Patientinnen <3 mm.	Studie ist eine operative Studie, da es um die Bewertung des Behandlungserfolgs geht. Das Follow up ist für eine operative Studie zu kurz.	Elektronisch vor 15.10.2011 publiziert
Validation of ultrasound scan in the diagnosis of female stress urinary incontinence.	Lukanovic A, Patrelli TS	###															Study not available!
Racial differences in female urethral morphology and levator hiatal dimensions: An ultrasound study	Derpapas A, Ahmed S, Vijaya G, Digeu GA, Regan L, Fernando R, Khullar V	###	PubMed	Keiner	37 Frauen (23 weiße + 14 farbige)	Kein drop out	terziäres Zentrum, asymptomatische weiße und farbige prämenopausale Frauen, POP 0-I (POP-q); cross sectional observational cohort study; Verwendung der Fragebogen King's health (KHQ) und Prolaps quality of life (P-QoL)	keine operative Studie! 3D+4D translabialer Ultraschall des Beckenbodens in Steinschnittlage nach Entleerung der Blase in 3 Ebenen (sagittal, coronar, axial); 7,5 MHz curved array (Voluson-I, GE Healthcare, Wauwatosa, WI), 85° transducer maximum	3D+4D translabialer Ultraschall nach der Miktion: urethrales Sphinktervolumen (TSV), Rhabdophinktervolumen (RSV), levatorische Hiatusdimension (LH)	Vegleich der Spinktermorphologie und der Dimension des levatorischen Hiatus zwischen weißen und farbigen prämenopausalen Nulliparae	Vergleich 23 weißer + 14 farbiger Frauen. Alter und BMI waren in beiden Gruppen gleich	Farbige werden im Text als black bezeichnet	non parametrischer Mann-Whitney U test, Frequenz-Histogramme (zeigen eine nicht-normal-Verteilung von Daten), SPSS 19.0, Chicago IL	Farbige haben ein größeres RSV und einen weiteren LH. Die Autoren vermuten, dass die Unterschiede der urethralen Morphologie Erklärungen für die Pathophysiologie der SUI geben könnten.	zu geringe Fallzahl. Eine wissenschaftlichen Begründung für die Schlussfolgerung ist nicht vorhanden. Diese werden rein spekulativ formuliert. Es werden aber einige Literaturstellen zitiert, die indirekt begründend für die Hypothese sein könnten.		
Relationship between Proximal Urethrovaginal Space Thickness and Detrusor Overactivity in Women with Stress Urinary Incontinence	Ji Yun Chae, Jae Heon Kim, Jae Hyun Bae, Jeong Gu Lee	###	PubMed	Keiner	72	kein drop out	prospektiv, 2 Gruppen: Detrusorüberaktivität vorhanden (n=23) vs nicht vorhanden (n=49). Voroperierte Patientinnen und solche mit Deszensus und neurologischen Störungen wurden ausgeschlossen	Messung des proximalen urethro-vaginalen Abstands bei einliegendem 18 Fr Dauerkatheter mittels 8 MHz Vaginalsonde in Steinschnittlage. Messung der urethro-vaginalen Gewebedicke = Abstand von Katheterballon zu Scheidenvorderwand	Messung der urethro-vaginalen Gewebedicke	Suburethrale Schlingentechnik. Messung des urethro-vaginalen Anstands mittels Katheter, Urodynamik, Urinanalyse, Q-tip Test, Restharmessung	Patientinnen ohne Detrusorüberaktivität	Das Operationsverfahren wird nicht beschrieben. Es gibt kein Follow up, bei dem die Veränderung der Zielparameter über die Zeit nach Operation untersucht wird. Die Operation spielt für die Fragestellung keine Rolle, dient aber dennoch als Aufhänger für die Studie	Keine	Fisher's exact test, Mann-Whitney U test, Spearman correlation, receiver operating characteristic (ROC) curves. SPSS 13.0	Patientinnen mit einer kürzeren Distanz zwischen Urethra und Vagina und einer kürzeren Urethra haben eine größere Detrusorüberaktivität, als die ohne Detrusorüberaktivität	zu geringe Fallzahl	
Does childbirth alter the reflex pelvic floor response to coughing?	Dietz HP, Bond V, Shek KL	###	PubMed	Dietz ist Referent für Astellas, GE, AMS und Berater für CCS, AMS. Er hat technische Ausstattung von GE, Toshiba, Bruel und Kjaer erhalten.	131 primär rekrutiert; 84 auswertbar	47 Datensätze technisch nicht ausreichend gut für Auswertung	Rekrutierung von Einlingschwangeren Nulliparae in zwei terziären Geburtskliniken Prävalenz und Quantität der reflektorischen Aktivierung des Beckenbodens beim Husten bei Nulliparae. Untersuchung der peripartalen Veränderungen und der Assoziationen zur SUI	Keine operative Studie! Translabialer 4D Ultraschall in Steinschnittlage nach Miktion: Auswertung der Verbildneten Ergebnisse durch einen Untersucher an PC: 4D Viewer v 5.0, GE Kretz. Die Daten volumina wurden in Ruhe, bei maximalem Valsalva Manöver und Kontraktion der Beckenbodenmuskulatur und unmittelbar nach dem Husten mit einer Frequenz von mind 16 Hz in einem Winkel von 10° gewonnen.	4D Ultraschall: Darstellung und Quantifizierung des Beckenbodenreflexes (M. levator ani) = Reduzierung des anteroposterioren Durchmessers des levatorischen Hiatus. Quantifizierung der reflektorischen Levaorkontraktionen: mitsagittaler Durchmesser des Hiatus an mehreren Zeitpunkten. Beurteilung der Levatorintegrität durch Tomographieultraschall. Ermittlung des Zeitpunkts von maximaler Levatoriktraktion zum maximalen Ausschlag des Blasenhalsses beim Husten (Durchblättern der Datensets: 50-62,5 ms) und Ermittlung der ersten Absenkung des Blasenhalsses in Relation zur ersten Reduktion des anteroposterioren Durchmessers des levatorschen Hiatus.	Einziges Intervention ist neben einem Interview am Beginn der Studie die unzulässige Verwendung des Epi-no Device, die bei der Auswertung einen nicht zu differenzierenden Einfluss ausübt.	Keine, jedoch wird die untersuchte Kohorte in die Geburtsmodi elektive Sektio, 1st und 2nd stage Sektio, normale vaginale Geburt, Vakuum und Forzeps unterschieden, was als "increasing traumatic potential definiert wird. Das zeigt sich in einer zunehmenden Reduktion der Reflexstärke.	Eine wichtige Einschränkung ist, dass diese Auswertung eine Sub-Analyse einer Pilotstudie zur Evaluation eines präpartalen Vaginaldilators (Epi-no device) ist. Das schränkt die Aussage bzgl. des Einflusses der vaginalen Geburt erheblich ein!	Untersuchungen der prä- (MW 35,8 SSW) und postpartalen (MW 4,6 Monate) Situation	Deskriptive Statistik, vergleichende Statistik mittels t-Test, Minilab v 13 (Minilab Inc, State College, Pa., USA), Normalitätstest nach der Kolmogorov-Smirnov Methode, gepaarter und ungepaarter T-Test, Analyse der Varianz und lobistischen Regression, Mann-Whitney-U Test, Preaman's correlation	82x sichtbarer Beckenbodenreflex. Post partum nur noch 63. Größte reflektorische Kontraktilität: 4,8 mm präpartal auf 2,0 mm postpartal - hier signifikante Korrelation zum Geburtsmodus und Trend zur Korrelation zum Geburtsmodus mit SUI.	Fallzahl für eine verwertbare Aussage zu gering. Selbst die Autoren zweifel in Ihrer Konklusion an Ihrer Aussage und relativieren stark.	Ob die Studie wegen der besonderen Situation der Evaluation (schwächere und entbundene Nulliparae und der Einfluss der Geburt) nicht doch verwertbar ist kann diskutiert werden.

Leitlinie Belastungsinkontinenz der Frau
Arbeitsgruppe Diagnostik Bildgebung

Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen
Clinical significance of postvoid residual volume in older ambulatory women	Huang AJ, Brown JS, Boyko EJ, Moore EE, Scholes D, Walter LC, Lin F, Vittinghoff E, Finn SD	###	PubMed	Keiner	987	216 in 2 Jahren	prospektive Kohortenstudie (Group Health Plan in Washington State) bei postmenopausalen älteren Frauen (55-75 Jahre). Messung der Restharmenge zu drei Zeitpunkten: Baseline, nach 1 Jahr, nach 2 Jahren. Studiengegenstand: Prävalenz, Verlauf und klinische Relevanz der Restharmenge nach Miktion	Keine operative Studie! Messung des Restharns durch tragbares Gerät (BladderScan BVI 2500+) 2x nach Miktion in supinierter Haltung auf dem Rücken liegend 3 cm oberhalb der Symphyse	Messung der Restharmenge nach Miktion	Questionnaire, Mikrobiologie des Urins	Vergleich von Vier Gruppen mit folgenden Restharmen nach Miktion: <50 mL, 50-99 mL, 100-199 mL, >200 mL	Keine	Große Kohortenstudie, die Restharn und Miktion unabhängig von einem operativen Verfahren untersucht	Markov chain Monte Carlo methods, multivariate Analyse, MI and Mianalyze procedures in SAS, version 9.2, Cox proportional hazards models	Patientinnen mit einer Restharmenge >100 mL hatten eine Miktionsfrequenz von >8/Tag. Patientinnen mit einer Restharmenge >200 mL hatten häufiger eine Dranginkontinenz, als die mit einer Restharmenge <50 mL. Eine hohe Restharmenge war nicht assoziiert mit einem größeren Risiko für: SUI, Nykturie, Harnwegsinfekten. Meist verschwinden die Symptome in einem Zeitraum von 2 Jahren. Symptomorientiertes Management scheint besser zu sein, als ein am Restharn orientiertes.		
Ultrasound measurement of abdominal muscles activity during abdominal hollowing and bracing in women with and without stress urinary incontinence	Arab AM, Chehrehrizi M	###	PubMed	Keiner	20	Kein drop out	cross sectional study design in 2 Gruppen: nicht schwangere Frauen mit SUI und kontinente; die Frauen sollten prämenopausal sein oder eine HRT erhalten; match Kriterien: Alter, BMI, Parität	Keine operative Studie! Linearer 7,5 MHz Transducer; B-Mode (Ultrasonix-ES500, Canada), rechte Bauchwand am Ende der Expiration. Messung an der anterioren Axillarlinie zwischen der 12. Rippe und dem Iliacarcand	Prozentuale Veränderung der Dicke des M. transversus abdominis und des M. obliquus externus während der hollowing und branching Manöver	Messung während hollowing und branching Manöver. Kontinenzfragebogen	10 kontinente, 10 inkontinente (SUI) nicht schwangere Frauen	sehr geringe Fallzahl; Die gleiche Studie wurde vom selben Autor schon mal publiziert	Keine	Kolmogrov-Smirnov Test für Normalverteilung, Intra class correlation coefficient (ICC), Bland-Altman plot, unabhängiger t-Test, 2-seitige gemischte ANOVA	Die Ergebnisse waren in beiden Gruppen gleich	Fallzahl zu gering; Die gleiche Studie wurde vom selben Autor schon mal publiziert	
Effect of pelvic-floor muscle strengthening on bladder neck mobility: a clinical trial	Hung HC, Hsiao SM, Chih SY, Lin HH, Tsauo JY	###	PubMed	Keiner	23	Kein drop out	single-group pretest-posttest design an nicht schwangere Frauen oder mind 3 Monate nach Geburt mit mind einer SUI Episode - auch MUI wurden zugelassen. Rekrutierung über Zeitungsannonce	Keine operative Studie! Perinealsonographie (Aloka SSD 680 Ultrasound System, 5 MHz curved linear array transducer) vor und nach Intervention. Messung der Blasenhalshaltung und -mobilität nach Auffüllen der Blase mit 250 mL destilliertem Wasser in Steinschnittlage.	Position des Blasenhalshalses in Ruhe und beim Husten, Valsalva Manöver und PFM Kontraktion	pelvic floor muscle (PFM) strengthening program über 4 Monate. Selbstbeschreibung der Verbesserung, Erstellung eines Severity Index score, Messung der Kraft der Vaginalen Anspannung	Keine	Mir erscheint die Fallzahl zu gering und der Interventionszeitraum zu kurz, obwohl die Autoren ihre Fallzahl geplant berechnet haben.	Keine Überwachung der Adhärenz zur Intervention. Keine Messung des intraabdominellen Drucks	Deskriptive Analyse, Shapiro-Wilk W Test für kontinuierliche Variablen, bivariate Korrelation, Kovarianzanalyse, t-Test, Wilcoxon signed rank Test, SPSS 11.0, Chicago IL, Bestimmung der Effektstärke	Position des Blasenhalshalses bei PFM Kontraktion und Blasenhalshaltungsmobilität zwischen Ruhe und zur PFM Kontraktion wurden durch das Training verbessert. Es ergab sich keine Veränderung für den Hustentest und das Valsalva Manöver. Beim Selbstbericht ergab sich für alle Patinetinnen eine Verringerung der Inkontinenz, sowie eine Zunahme der PFM Stärke und der vaginalen Anspannbarkeit.		
Reliability of a new method for assessing urethral compression following midurethral tape procedures using four-dimensional ultrasound	Yang JM, Yang SH, Huang WC, Tzeng CR	###	PubMed	Keiner	31	hoher Verlust im Follow up: 31 1 Mo FU, 15 3 Mo FU, 3 6 Mo FU	Prospektive Studie, prä- und postoperatives (1, 3, 6 Monate nach OP) Follow up vor- und nach Einlage eines TOT (Monarc). Ein einziger Untersucher hat alle Ultraschalle durchgeführt.	3D/4D Introitussonographie in Steinschnittlage bei Ruhe, maximaler Anspannung, starkem Husten; Philips IU22 Ultraschallsystem, Philips Medical System, Bothell, WA, USA, 3-9 MHz Vaginatsonde. 4D Schall erfolgte mit 85° Winkel mit 2-3 Hz.	präoperativ: axiale Messung der urethral central echolucent area (UCEA); postoperativ: sagittale Messung des Tape-Urthra Abstands (TUD) an drei verschiedenen Punkten, UCEA und axiale Messung des Tape-Winkels (ATA). Alle Messungen wurden in Ruhe mit maximaler Anspannung und beim Husten vorgenommen. Auswertung: 2 verbundene Untersucher unabhängig voneinander	TOT (Monarc, AMS)	Keine	Follow up zu kurz, hohes lost to follow up, wenig auswertbares Material	Gegenstand der Studie ist nicht die Operation oder der Operationserfolg, sondern die Intra- und Interobserver Reliabilität des 4D Ultraschalls zur Beurteilung der urethralen Kompression nach TOT	Intraclass correlation coefficient (ICC) zur Ermittlung der Intra- und Interobserver Reliabilität. Wilcoxon Test. SPSS 17.0, Chicago, IL, USA	TUD und UCEA waren signifikant reduziert bei erhöhtem intraabdominellen Druck. Der ICC zeigte in allen untersuchten Situationen gute Reliabilität. Conclusion: 4D Ultraschall zeigt eine gute Reliabilität bei der Beurteilung der urethralen Kompression.	Postoperatives Follow up nur 6 Monate, wobei nur 15 nach 3 Monaten und 3 nach 6 Monaten noch im Follow up waren! Es war von diesen außerdem nur eingeschränkt auswertbares Material vorhanden.	Blasenfüllung war nicht standardisiert bei den Messungen. Das eingeschränkte Follow up mit reduziertem auswertbarem Material ist meines Erachtens auch eine Einschränkung für die Conclusion (s. Clinical
Non-Invasive Diagnosis of Stress Urinary Incontinence Sub Types Using Wavelet Analysis, Shannon Entropy and Principal Component Analysis	Tufan K, Kara S, Latifoğlu F, Aydın S, Kirş A, Ozkuvanci U	###	PubMed	Keiner	59 UHM + 30 ISD Frauen	Kein drop out	Prospektive Selektion von Patientinnen mit SUI durchföhren einer Urodynamik und Differenzierung in urethral hypermobility (UHM), intrinsic sphinkter defency (ISD) und mid-type SUI - mid-type SUI wurden ausgeschlossen; Aufnahme der Dopplersignale der A. urethrae	Doppler: Perinealsonographie; 7,5 MHz Linearschallkopf (GE Logiq), Insonationswinkel 45°; Aufnahme mit einem professionellen Soundrecorder (Olympus LS-10 Digital Voice Recorder). Analyse: MATLAB Programm (Matlab 7.6.0, R2008a, The MathWorks Inc., Natick, MA, USA); Verwendung der Wavelet Transformation anstelle der Fourier Transformation, da diese eine schlechte Auflösung bei veränderlichen Frequenzen hat. Das Dopplersignal der Urethraarterie wurde mit "db3" Daubechies Wavelets bis in das 5. Level zerlegt. Diese wurden durch Principal	Insonationswinkel 45° auf das zentrierte Gefäß (A. urethrae)	Dopplersonographie der A. urethrae	Keine	Bei übergewichtigen Frauen konnte die zarte A. urethra in der Tiefe oft nicht gefunden werden, weshalb diese ausgeschlossen werden mussten	Die Autoren versuchen eine neue Methode zu entwickeln, bei der durch Verwendung von Dopplersono (Messung des Blutflusses in der urethralen Arterie) die konventionelle Urodynamik ersetzt werden soll.	MATLAB Programm (Matlab 7.6.0, R2008a, The MathWorks Inc., Natick, MA, USA)	Keine Invasivität vs Urodynamik, sehr kurze Phase der Datenerfassung vs Urodynamik; Ergebnisse gelten aber nur bei SUI und hier nur für UHM und ISD	Meines Erachtens ist dies ein derzeit als experimentell einzustufendes Verfahren	Das ist ein extrem technischer Artikel, der sich vor allem mit Methodischen Problemen der Datenverarbeitung beschäftigt. Nebenbei wird versucht, eine neue Untersuchungsmethode zur non-invasiven "Urodynamik" zu entwickeln.

Leitlinie Belastungsinkontinenz der Frau
Arbeitsgruppe Diagnostik/Bildgebung

Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen
Measurement of transurethral bladder neck displacement during tension-free vaginal tape procedure	Abbasy SA, Kenton K, Brubaker L, Mueller ER	###	PubMed	Keiner	28	Kein drop out	Prospektiv, Tertiäre urogynäkologische Klinik	2D Perinealsono nach Füllung der Blase mit 70 mL Wasser zur Messung der Verdrängung des Blasenhalbes durch den Irgator im Blasenkatheter während der retropubischen Passage mit dem TVT Device. BK Ultrasound, Pro focus Series Ultrasound System, CH MDL 70589CL3; Convex Sonde: MFI 3,75-6,0 MHz, 3D Perinealsonographie.	Position des Blasenhalbes in Ruhe und nach Manipulation durch den Irgator nach lateral.	Klassisches TVT nach Messung, also ohne direkten Zusammenhang	Keine	Voroperationen und Grad des Deszensus wurde bei der Auswertung nicht berücksichtigt	Operative Qualität ist zweifelhaft, s. Komplikationen.	Spearman's correlation zur Messung der Verdrängung von der Mittellinie. SPSS 17.0	Mittlere Verdrängung des Blasenhalbes ist 1,4 cm. Die Perforationsrate war 14%!	Fallzahl zu gering	Die Patientinnen erhielten zu 32% neben dem TVT ein Beckenbodenreparatur. Sehr hohe Komplikationsrate mit 14% Blasenperforationen.
The assessment of voluntary pelvic floor muscle contraction by three-dimensional transperineal ultrasonography	Chen R, Song Y, Jiang L, Hong X, Ye P	###	PubMed	Keiner	103, davon: 36 POP, 36 SUI, 31 normale Kontrollen	7: 3 SUI, 2 POP, 2 normal Controls	Test der Validität der Ultraschallparameter zur Beurteilung der Kontraktion der Beckenbodenmuskulatur bei Frauen mit strukturellen Veränderungen des Beckenbodens	Mittleres sagittales Feld und Volumen in Ruhe und bei Kontraktion der Beckenbodenmuskulatur. GE Kretz Voluson 730 Expert system (GE Medical System, Austria), RAB 8-4 MHz abdominal volume transducer	Ermittlung der Versetzung des Blasenhalbes, des sagittalen hiatalen Durchmessers, des levatorischen hiatalen Winkels, der Levator-Hiatus Region	Anspannen der Beckenbodenmuskulatur nach verbaler Erklärung und unter Visueller Kontrollen des Perineums, sowie taktile Kontrolle durch vaginale digitale Palpation nach Entleeren der Blase in supinierter Beinhaltung	31 normale Kontrollen	Keine	Keine	Intraclass correlation coefficient (ICC) zur Ermittlung der Intraobserver Reliabilität. One-way ANOVA, SPSS 11.5	Die angewandten sonographischen Parameter zur Beurteilung der Veränderung des levatorischen Hiatus bei Anspannung der Beckenbodenmuskulatur erscheinen nicht sensitiv genug, zur Beurteilung der Funktion der Beckenbodenmuskulatur		
Ultrasound assessment of tension free vaginal tape (TVT).	Flock F, Kohorst F, Kreienberg R, Reich A	###	PubMed	Keiner	308	Kein drop out	Sonographische Erfassung von Form und Lage eines TVT Bandes und Vergleich mit postoperativen Ergebnissen. 3 Monate postOP wurden die Patientinnen in solche mit und ohne Probleme / Störungen eingeteilt	Introitussonographie nach Füllung der Blase mit 250 mL Vaginalsonde 6,5 MHz. Logiq 500, GE Medical Systems, USA	Beurteilung der Position des TVT in Relation zur Urethralänge und Abstand zum hypoechoenen Zentrum der Harnröhre.	Klassisches TVT. ICQ long form Questionnaire, Miktionstagebuch, Stress-Test (Husten und Valsalvamanöver) in supinierte Position, gynäkologische Untersuchung, 24-Stunden Pad Test, Introitussonographie, Präoperative Urodynamik	Intrinsische Kontrolle nach postoperativen Problemen / Störungen	Keine	Keine	Wilcoxon test, Chi-square test	Sehr nah an der Urethra positionierte TVT erzeugen häufiger Miktionsstörungen, zentral gelegte TVT können einen SUI häufiger hellen. Daher sollten alle Patientinnen mit postoperativen Schwierigkeiten mit Introitussonographie zur Evaluation der Bandlage untersucht werden.	Follow up im Mittel nur 3 (2-9) Monate! Da operative Studie und damit Verstoß gegen unsere Einschlusskriterien - Ausschluss.	
The response of the abdominal muscles to pelvic floor muscle contraction in women with and without stress urinary incontinence using ultrasound imaging	Arab AM, Chehrezaei M	###	PubMed	Keiner	20 nicht Schwangere Frauen: 10 kontinente und 10 inkontinente	Kein drop out	Untersuchung der Veränderung der Dicke der Muskeln der Bauchwand als Reaktion auf die Anspannung der Beckenbodenmuskulatur bei Frauen mit und ohne SUI	B-Mode Sonographie. Ultrasonix-ES500, Burnaby, BC Canada, 7,5 MHz Linearsonde; die Messung erfolgte auf der rechten Bauchseite	Messung der Dicke des M. transversus abdominis und M. obliquus internus bei Anspannung des Beckenbodens	Fragebogen, Anleitung der Teilnehmer zur Anspannung der Beckenbodenmuskulatur, die Korrekte Durchführung wurde digital vaginal kontrolliert	10 kontinente, 10 inkontinente (SUI) nicht schwangere Frauen	sehr geringe Fallzahl; Die gleiche Studie wurde vom selben Autor schon mal publiziert	Keine	Kolmogorov-Smirnov Test für Normalverteilung, intra class correlation coefficient (ICC), 2-seitige gemischte ANOVA	Bei Anspannen der Beckenbodenmuskulatur zeigt sich eine Verdickung von M. obliquus int. und M. transversus abdominis als Zeichen einer Kokontraktion der Bauchmuskeln bei beiden Gruppen.	Fallzahl zu gering	
Sonographic appearance of transobturator slings: implications for function and dysfunction	Chantarasorn V, Shek KL, Dietz HP	###	PubMed	Dietz ist Referent für Astellas, GE, AMS und Berater für CCS, AMS. Er hat technische Ausstattung von GE, Toshiba, Bruel und Kjaer erhalten.	98, davon 6 drop out	6, da diese bereits vorher eine Schlingenoperation hatten	Prospektive Untersuchung der Beziehung zwischen sonographischem Aspekt des TVT mit postoperativen Blasensymptomen. Tertiäre Einheit	Prä- und postoperative perineale 4D pelvic floor Sonographie nach Entleeren der Blase in Ruhe und unter Valsalvamanöver, Voluson 730 expert systems, RAB 8-4 MHz, Akquise in 85° Winkel	Pelvic floor ultrasound zur Untersuchung der Öffnung zwischen TVT und Symphyse, des Winkels zwischen oberem und unterem Ende der Schlinge in Ruhe und bei Valsalvamanöver, bestimmung des Abstands zwischen Schlinge und Urethra	Monarc, AMS mit und ohne gleichzeitiges pelvic floor repair, Interview, Urodynamik, 4D Sonographie	Keine spezifisch definiert. Die inhomogenität des Kollektivs dient bei der Auswertung immer wieder als sich quasi zufällig ergebende Kontrolle	34 hatten bereits eine HE und 11 eine InkontinenzOP, 35 hatten symptomatischen POP, davon hatten 36 eine ausgeprägte Zystozele; 44 hatten gleichzeitiges Beckenbodenreparatur: 15 Perige, 25 hintere Kolporrhaphie, 11 sacrospinale Fixation, 4 anteriore Kolporrhaphie, 5 Apogee, 4 Levatorenplastik	Datenanalyse mit GE Kretz 4D View version 5.0-7.0	intra class correlation coefficient (ICC), Bland-Altman plot, Kolmogorov-Smirnov Test (Minitab version 13), Students t-Test, Pearson correlation, Kruskal-Wallis Test	Patientinnen mit postoperativer SUI oder Urgeinkontinenz hatten eine signifikant weitere Öffnung zwischen Symphyse und Schlinge	FU 11 Monate, liegt gerade unter unserer 12 Monatsgrenze	Aussage durch gleichzeitiges pelvic floor repair eingeschränkt
Efficacy of ultrasound-guided pelvic muscle training	Crivellaro S, Abbinante M, Martinez G, Tosco L, Palazzetti A, Frea B	###	ICS	Keiner	73	Kein drop out	Biofeedbackstudie zur Visualisierung des Erfolgs eines Beckenbodentrainings 8 Tage nach radikaler retropubischer Prostatektomie. Erfolgskontrolle des Trainings nach 1, 4, 7 Monaten und 1 Jahr post operativ, Evaluation durch Fragebogen und zählen der täglich verwendeten Vorlagen.	Transrektaler Ultraschall nach intravesikaler Instillation von 120 mL Wasser zur Visualisierung der korrekten Kontraktion des externen quergestreiften Sphinktermuskels. Hitachi H21, 7,5 MHz	Reine Visualisierung des Sphinktermuskels und Beurteilung, ob eine Kontraktion erreicht wird oder nicht	Radikale retropubische Prostatektomie. Aufforderung zur willkürlichen Kontraktion des externen urethralen Sphinkters unter sonographischer Kontrolle. Tägliches Training des Kontraktionsmanövers (30x/d), ICQ short form Fragebogen	Keine	Keine statistische Auswertung	Studie an Männern nach radikaler Prostatektomie	Keine, bzw. reine Deskription. Die Ergebnisse des Pad-Verbrauchs und des ICQ Tests werden nicht angegeben	Komplett kontinent: 25 nach 1 Monat (34%), 23 nach 4 Monaten (31%), 20 nach 1 Jahr (20%).	Hier wird nicht eine Ultraschallmethode untersucht, sondern ein visuelles Biofeedback ausprobiert. Die Auswertung erfolgt ohne eigene Kontrolle (nur Vergleich mit der Literatur) und ohne Statistik	

Leitlinie Belastungsinkontinenz der Frau
Arbeitsgruppe Diagnostik Bildgebung

Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen
Retrospective studies																	
Reflex contraction of the levator ani in women symptomatic for pelvic floor disorders.	Dietz HP, Erdmann M, Shek KL.	###	Manuskript	Dietz ist Referent für Astellas, GE, AMS und Berater für CCS, AMS, Materna. Er hat technische Ausstattung von GE, Toshiba, Bruel und Kjaer erhalten.	191: 175 analysierbare Datensätze	16	Retrospektive Kohortenstudie zur Untersuchung der reflektorischen Aktivierung der Beckenbodenmuskulatur beim Husten, terziäres Zentrum	Keine operative Studie. 4D pelvic floor sonography (GE Kretz Voluson 739 expert), 10-15" Volumenakquisition	Urodynamik (Neomedics Acquadata), Überprüfung der Levatointegrität durch tomographische Sonographie.	Messung erfolgt in Ruhe, bei Valsalva, Kontraktion der Beckenbodenmuskulatur und beim Husten.	Keine	Keine	Datenanalyse mit GE Kretz 4D View version 5.0-7.0	Die Studie ist eine geplante Subgruppenanalyse. Multivariate Analyse, SPSS 12, Minitab 13, Excel plug-in "Analyse it" (Analyse-it software, Leeds, UK), Kolmogorov-Smirnov Analyse, t-Test	Pelvine Reflexe scheinen nur schwach mit einer urodynamischen SUI assoziiert zu sein. 138 (79%) Levatorreflex, 160 (91%) Reflex der Kitzbewegung. Signifikante Beziehung zwischen fehlendem Levatorreflex und urodynamischer SUI, das gilt auch für die Stärke des Reflexes. Keine Beziehung ergibt sich zwischen dem Zeitpunkt des Auftretens eines Reflexes und SUI	Nach 15.10.2011 publiziert.	
Obstetric levator ani muscle injuries - Current status.	Schwertner-Tiepelmann N, Thakar R, Sultan AH, Tunn R.	###	PubMed/Manuskript	Keiner	Keine	Kein drop out	Retrospektive PubMed Recherche (7/10-9/11) zu Verletzung des M. levator ani (LAM), POP, SUI, faecal incontinence, pelvic floor trauma and childbirth, prevention of LAM injury, LAM palpation	Sono wird verglichen mit Palpation und MRI. Eine spezielle Technik wird nicht evaluiert.	Im Artikel ist viel Propädeutik. Es werden Sonotechniken erklärt: 2D, 3/4D, perineal, endovaginal	Versuch der Verbindung von LAM Verletzung und Beckenbodendysfunktion und der Identifikation von Risikofaktoren. Dies sollte zur Entwicklung präventiver Strategien vor LAM Verletzungen	Keine	Retrospektive Literaturübersicht	Keine	Keine	Problem der Betrachtung der LAM Verletzung ist die unterschiedliche Definition und Klassifikation in Abhängigkeit zur Diagnostik: Palpation, MRI, USD	Keine Bewertung der Sonographie, weder technisch, noch inhaltlich. Artikel gibt lediglich anekdotisch einzelne Literaturstellen wieder.	
3-Dimensional Ultrasonographic Assessment of the Compression Effect on Urethra Following the Tension-Free Vaginal Tape and Transobturator Tape Procedures	Lin KL, Juan YS, Lo TS, Liu CM, Tsai EM, Long CY	###	PubMed/Manuskript	Keiner	48: 24 TVT, 24 TVT-O	Kein drop out	Retrospektive Analyse von SUI Patientinnen nach TVT/TVT-O	3D Perinealsonographie in Ruhe und Anspannung; Voluson GE Sonography system, 3,5 MHz	Anatomische Veränderungen der Urethra: lange und kurze Axen des hypoechoenen Anteils der mittleren Urethra	TVT und TVT-O, Urodynamik, Urinanalyse, Pad-Test, Interview (Bristol Female Lower urinary Tract Symptoms Questionnaire); Untersuchung vor OP und 1 Jahr danach	Keine	Keine	t-Test, Chi-square Test, Fisher's exact Test	Bei Patientinnen mit operativem Erfolg (40) verringert sich der hypoechoene Anteil der Urethra von Ruhe zu Anspannung signifikant im Vergleich zu denen ohne Erfolg. Conclusion: die Kompression der Urethra ist wichtig für den Kontinenzmechanismus nach TVT und TVT-O. Die Veränderungen der urethralen Anatomie sind bei beiden Verfahren gleich.	Fallzahl zu gering		
The suburethral tension adjustable sling (REMEEX system) in the treatment of female urinary incontinence due to 'true' intrinsic sphincter deficiency: results after 5 years of mean follow-up	Giberti C, Gallo F, Cortese P, Schenone M	###	PubMed		30	Kein drop out	Retrospektive Untersuchungen an Patientinnen mit SUI aufgrund eines "echten" intrinsischen Sphinkterdefekts mit fixierter Urethra. Postoperative Zuordnung zu Gruppen (geheilt, trockene Patientinnen beim Stress Test (Pad Gewicht 0-1 g), gebesserte Patientin mit milder-moderater Inkontinenz (Pad Gewicht 2-50 g), Versager (Pad Gewicht >50g))	Habe den ganzen langen Artikel gelesen und keinen Hinweis auf Ultraschall als Gegenstand der Untersuchung gefunden ... !	???	Adjustierbare Schlinge (Remeex system). Voe OP: translabialer Ultraschall, Zystoskopie, Urodynamik, 1-Stunden Pad Test, QoL Fragebogen	Keine	Keine	5 Jahres Follow up	t-Test	Erfolgsquote: 86 % geheilt, 7% gebessert, 7% Versager. Bei 7% der Patientinnen wurde die Schlinge nachjustiert (2 Patientinnen).	Ist keine Sonostudie !!! Zudem wäre für eine sonstige Studie die Fallzahl zu gering. Außerdem Bias: 67% bereits urogynäkologisch voroperiert (TVT, Burch, Bulking agent) und Kombinationseingriffe erlaubt	20 (67%) Patientinnen hatten bereits eine gynäkologische (Hysterektomie) oder Kontinenz-Operation (TVT, Burch, Bulking agent)!
Minimal criteria for the diagnosis of avulsion of the puborectalis muscle by tomographic ultrasound	Dietz HP, Bernardo MJ, Kirby A, Shek KL	###	PubMed	Dietz ist Referent für Astellas, GE, AMS und Berater für CCS, AMS, Materna. Er hat technische Ausstattung von GE, Toshiba, Bruel und Kjaer erhalten.	764	11	Retrospektive Untersuchung zur Definition vom Diagnosekriterien für den kompletten Abriss des M. puborectalis. Korrelation dieser Diagnose mit POP und Blasendysfunktion. Tertiäres urogynäkologisches Zentrum	Tomographischer 4D translabialer Ultraschall bei leerer Blase bei maximalem Valsalva und bei Anspannen der Beckenbodenmuskulatur; 4D View v 7.0, GE Medical Ultrasound, Zipf, Austria)	Levator urethra gap measurement: partieller Abriss: eines der Slices 3-8 ist abnormal, kompletter Abriss: alle drei zentralen Slices sind abnormal	Interview, 4D translabialer Ultraschall bei Baseline und nach 6 Monaten	Keine	Keine	Keine	Logistic regression modelling, Minitab V. 13, SPSS V 17, Kolmogorov-Smirnov Methode, t-Test	Zur Diagnose eines kompletten Abrisses des M. puborectalis werden drei auffällige zentrale tomographische Schnitte benötigt. 30% der Patientinnen wiesen einen solchen Defekt auf, was mit Symptomen und Zeichen eines POP signifikant korrelierte. Partielle Verletzungen waren nicht mit POP vergesellschaftet.		
Cochrane reviews																	

Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen
Traditional suburethral sling operations for urinary incontinence in women	Haroon Rehman, Carlos CB Bezerra, Homero Bruschini, June D Cody	###	Cochrane Review												Demirdi 2001: RTC, FU 12 mo, n=46, 12 lost to FU. 1) Schlinge aus Rektusfaszie, 2) Burch; Sono zur Beurteilung der prä- und postoperativen Blasenhalmsmobilität. Ergebnis: Verbesserung in beiden Gruppen, aber beide Gruppen gleich	Der Cochrane Review bringt keinen substanzialen Beitrag zum Stellenwert der Bildgebung	
Mechanical devices for urinary incontinence in women	Allyson Lipp, Christine Shaw, Karin Glavind	###	Cochrane Review													Hat garnichts mit Bildgebung zu tun ... !!!	
Treatment of recurrent stress urinary incontinence after failed minimally invasive synthetic suburethral tape surgery in women	Evangelia Bakali, Brian S Buckley, Paul Hilton, Douglas G Tincello	###	Cochrane Review													Hat garnichts mit Bildgebung zu tun ... !!!	

Publikation	Autor	Jahr	Quelle	Interessensfokus	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildegebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen
1997-2000																	
colposuspension																	
"stress urinary incontinence" AND complication AND colposuspension																	
Infectious peritonitis complicating suprapubic catheter removal	Heit M.	1997	Int Urogynecol J Pelvic Floor Dysfunct. 1997;8(1):47-9.	not stated	1	0	case report	no	not applicable	abdominal X-ray, CT scan, urine culture, blood, antibiotics and Foley, iv fluid, bowel rest	no			no	Acute infectious peritonitis due to extravasated infected urine after catheter removal with a full bladder. Normalisation of bowel function within 10 days, discharged.		Abstract
Hematuria and clot retention after Burch colposuspension and Cystofix suprapubic catheterization: suprapubic cystostomy as an alternative suprapubic drainage method	Yip SK, Leung TY, Chan CK.	1998	Int Urogynecol J Pelvic Floor Dysfunct. 1998;9(2):122-4.	not stated	1	0	case report	transvaginal ultrasound before revision	haematoma	emergency cystoscopy two days of haematuria, two units of blood	no			no	Revision on day 8, evacuation of haematoma, insertion of Foley catheter, afterwards discharged		Abstract, clinical management questionable
Small bowel obstruction in a peritoneal defect after laparoscopic Burch procedure	Margossian H, Pollard RH, Walters ND.	1999	J Am Assoc Gynecol Laparosc. 1999 Aug;6(3):343-5.	not stated	1	0	case report	unknown	unknown	unknown	no	cannot be commented on	page 344 not available	no	ileus/obstruction 9 days after laparoscopic Burch colposuspension due to herniation of small bowel in through the nonclosed peritoneal insertion	Article incomplete available	Abstract
Iatrogenic bladder lithiasis in the Burch technique. An infrequent complication	Moyano Calvo JL, Romero Diaz A, Ortiz Gams A, Martinez Moran A, Castiella Fernández J.	2000	Arch Esp Urol. 2000 Jun;53(5):488-9.	cannot be commented on	1	0	case report	cannot be commented on	cannot be commented on	cannot be commented on	no	cannot be commented on	Article in Spanish	no	irritative bladder symptoms and dyspareunia two years after colposuspension, stone formation on the nonresorbable suture endoscopically using local anesthesia (???) without compromising continence	only in Spanish	SPANISH, Abstract
"stress urinary incontinence" AND dyspareunia																	
Dyspareunia and recurrent stress urinary incontinence after laparoscopic colposuspension with mesh and staples. A case report.	Sharp HT, Doucette RC, Norton PA.	2000	J Reprod Med. 2000 Nov;45(11):947-9.	nothing to be stated	1	0	case report	none	not applicable	bimanual examination, cotton swab test, multichannel urodynamic, abdominal revision with cystotomy for staple and mesh removal, modified Burch colposuspension, Foley catheter for 5 p.o. days, self-catheterization for 3 weeks, oxybutynin 5mg 1-1-1	no	clinical management questionable, not known whether patient still suffered recurrent SUI after revision	clinical management questionable, not known whether patient still suffered recurrent SUI after revision	no	one year after laparoscopic colposuspension with hernia staples and polypropylene mesh the patient developed recurrent stress urinary incontinence and dyspareunia. Palpable metal staples corresponded with area of maximal tenderness, four staples were found in the bladder wall. The mesh, which was densely adherent to the bladder wall had eroded into the musculature; bladder lesions were repaired, a modified Burch colposuspension was performed. A Foley catheter remained for 5 days, the patient had to perform self-catheterization for further 3 weeks and due to bladder spasm took oxybutin and analgetics for 4 weeks. After 7 weeks she resumed sexual intercourse without dyspareunia		Abstract
retropubic tape																	
"stress urinary incontinence" AND complication AND "tension free vaginal tape"																	
Erosion of a fascial sling into the urethra	Handa VL, Stone A.	1999	Urology. 1999 Nov;54(5):923	not stated	1	0	case report	no	not applicable	cotton- swab test, videourodynamics	no			no	Postoperatively, the patient developed significant urge incontinence, urinary retention		Abstract
"stress urinary incontinence AND complication AND "retropubic tape"																	
"stress urinary incontinence" AND bleeding																	
Hematuria and clot retention after Burch colposuspension and Cystofix suprapubic catheterization: suprapubic cystostomy as an alternative suprapubic drainage method	Yip SK, Leung TY, Chan CK.	1998	Int Urogynecol J Pelvic Floor Dysfunct. 1998;9(2):122-4.	not stated	1	0	case report	transvaginal ultrasound before revision	haematoma	emergency cystoscopy two days of haematuria, two units of blood	no			no	Revision on day 8, evacuation of haematoma, insertion of Foley catheter, afterwards discharged		Abstract, clinical management questionable
"stress urinary incontinence" AND erosion																	
Erosion of a fascial sling into the urethra	Handa VL, Stone A.	1999	Urology. 1999 Nov;54(5):923	not stated	1	0	case report	no	not applicable	cotton- swab test, videourodynamics	no			no	Postoperatively, the patient had significant urge incontinence, urinary retention		Abstract
Use of the flexible cystoscope as a vaginoscope to aid in the diagnosis of artificial sling erosion.	Chai YC, Sliker GN	1999	Urology. 1999 Mar;53(3):617-8	supported by a grant from National Institutes of Health	2	0	case report	no	not applicable	pelvic examination and flexible cystoscopy and vaginoscopy	no		vaginoscopy	no	Postoperatively, the patient had significant urge incontinence, urinary retention		Abstract
"stress urinary incontinence" AND perforation																	
transobrotator tape																	
"stress urinary incontinence" AND complication AND "tension free vaginal tape"																	
"stress urinary incontinence" AND complication AND "transobrotator tape"																	
"stress urinary incontinence" AND bleeding																	
Hematuria and clot retention after Burch colposuspension and Cystofix suprapubic catheterization: suprapubic cystostomy as an alternative suprapubic drainage method	Yip SK, Leung TY, Chan CK.	1998	Int Urogynecol J Pelvic Floor Dysfunct. 1998;9(2):122-4.	not stated	1	0	case report	transvaginal ultrasound before revision	haematoma	emergency cystoscopy two days of haematuria, two units of blood	no			no	Revision on day 8, evacuation of haematoma, insertion of Foley catheter, afterwards discharged		clinical management questionable
"stress urinary incontinence" AND erosion																	
Use of the flexible cystoscope as a vaginoscope to aid in the diagnosis of artificial sling erosion.	Chai YC, Sliker GN	1999	Urology. 1999 Mar;53(3):617-8	supported by a grant from National Institutes of Health	2	0	case report	no	not applicable	pelvic examination and flexible cystoscopy and vaginoscopy	no		vaginoscopy	no	vaginal pain, discharge and irritative voiding after bladder neck suspension by artificial sling. Sling erosion in both patients was detected per vaginoscopy using the flexible cystoscope. Slings were removed in toto under regional anaesthesia. Patients symptoms resolved and six months postoperatively they were still continent		Abstract
Erosion of a fascial sling into the urethra	Handa VL, Stone A.	1999	Urology. 1999 Nov;54(5):923	not stated	1	0	case report	no	not applicable	cotton- swab test, videourodynamics	no			no	Postoperatively, the patient had significant urge incontinence, urinary retention		Abstract
"stress urinary incontinence" AND perforation																	
"stress urinary incontinence" AND complication AND "inside out"																	
"stress urinary incontinence" AND complication AND "inside out"																	
"stress urinary incontinence" AND complication AND "outside in"																	

"stress urinary incontinence" AND complication AND "outside-in" prepubic tape																	
"stress urinary incontinence" AND erosion																	
"stress urinary incontinence" AND bleeding																	
bulking agent																	
"stress urinary incontinence" AND complication AND "bulking agent" artificial urinary sphincter																	
"stress urinary incontinence" AND complication AND "artificial urinary sphincter"																	
Bladder S3 nerve stimulation, a minimally invasive alternative treatment for postoperative stress incontinence after implantation of an anterior root stimulator with posterior rhizotomy: a preliminary observation	Everaert K, Doree A, Van Laere M, Vandekerckhove T	2000	Spinal Cord. 2000 Apr;38(4):262-4.	1	case report				urodynamics			male paraplegic patient with implantation of intradural anterior root stimulator per posterior rhizotomy, with bilateral S3 stimulation severe urinary stress incontinence was cured	Male patient	Abstract			
 pessary																	
"stress urinary incontinence" AND complication AND pessary																	
bladder neck suspension																	
"stress urinary incontinence" AND bleeding																	
"stress urinary incontinence" AND erosion																	
Use of the flexible cystoscope as a vagroscope to aid in the diagnosis of artificial sling erosion.	Chai YC, Silar GN	1999	Urology. 1999 Mar;53(3):617-8	2	case report	no	not applicable		Pelvic examination and flexible cystoscopy and vaginoscopy	no		vaginoscopy	no	vaginal pain, discharge and irritative voiding after bladder neck suspension by artificial sling. Sling erosion in both patients was detected per vaginoscopy using the flexible cystoscope. Slings were removed in toto under regional anesthesia. Patients symptoms resolved and six months postoperatively they were still continent.			
Publikation	Autor	Jahr	Quelle	Anzahl Patienten	Komplikation									Bemerkungen			
1.1.2001-31.12.2004																	
colposuspension																	
"stress urinary incontinence" AND complication AND colposuspension																	
An unusual complication of Burch colposuspension	Mankandari (Pritchard S Brown S)	2004	Int J Urol 2004; 11: 669-670	1	Aden (Polyester) in der Blase									kein Volltext			
Staple erosion into the bladder after mesh and staple laparoscopic colposuspension a case report	Warrington JL	2002	Reprod Med 2002; 47: 325-6	1	Blutung, Staplererosion in die Blase												
Fasciitis: a rare complication of Burch colposuspension	Georgiu M, Sheeha HA, Chalhah C, Byrne PD, McWhinney NA, Gough PM	2001	BJOG 2001;108:227-9	1	Fasciitis												
retropubic tape																	
"stress urinary incontinence" AND complication AND "tension free vaginal tape"																	
17-year-old woman with urinary hesitancy and pelvic pain	Cannon T, Leng W, Charney MB	2004	Rev Urol 2002; 4(4): 188-191	1	Retention und Schmerz nachTVT												
Suburethral vaginal erosion and pyogenic granuloma formation: an unusual complication of intravaginal slingoplasty (VUS)	Lim YN, Rame A	2004	Int Urogynecol J Pelvic Floor Dysfunct 2004; 15(1):56-8	1	Erosion mit Infekt												
Urethral erosion of tension-free vaginal tape	Madjar S, Tichelen MB, Antwerp A, Abdelmalek J, Backley RG	2002	Urology 59: 601-601	1	Erosion des Tapes in die Urethra												
Simultaneous urethral erosion of tension-free vaginal tape and woven polyester suboccygeal sling	Gerstenbluth RE, Goldman HB	2003	J Urol 2003; 170:825-6	1	Erosion												
Urethral erosion of tension-free vaginal tape	Liub J, Das AK	2003	Scand J Urol Nephrol 37(2): 184-5	1	Erosion und Retention												
True occult bladder perforation during placement of tension-free vaginal tape	Buchbaum DM, Mail C, Ducey EE	2004	Int Urogynecol J Pelvic Floor Dysfunct 2004; 15(6): 432-3	1	Blasenverletzung												
Intestinal perforation: an infrequent complication during insertion of tension-free vaginal tape	Castillo CA, Dodson E, Olivares RA, Utrera RD	2004	J Urol 2004; 172:1364	1	Darmverletzung												
An unusual complication of tension-free vaginal tape procedure: recurrent anterior vaginal wall abscess and sinus formation	Ghosh F, Branfield PJ, Khazraj DA	2004	J Obstet Gynaecol 2004; 24(5): 590-1	1	Infektion am TVT												
Colovaginal fistula: an unusual complication of the tension-free vaginal tape procedure	Praty G, Boleuc S, Marinneau G, Fortin D	2004	J Urol 2004; 172(3): 972-3	1	Darmverletzung												
Delayed vaginal erosion of the tape - rare complication withTVT	Sharma B, Cligto N	2004	J Obstet Gynaecol 2004; 24(1): 56-8	1	Erosion vaginal												
Foley balloon to tamponade bleeding in the retropubic space	Aungst M, Zhang M	2003	Obstet Gynecol 2003; 102: 1037-8	1	Retropubisch in die Blase												
Transurethral resection of tension-free vaginal tape penetrating the urethra	Werner M, Najari L, Schuster B	2003	Obstet Gynecol 2003; 102: 1034-6	1	urethrale Erosion												
Colic perforation as a complication of tension-free vaginal tape procedure	Anna MB, Bandanante nana A, Michel F	2003	J Urol 2003; 170: 2387	1	Darmverletzung												
Urethral erosion of a tension-free vaginal tape	Vassallo BJ, Kleeman SD, Segal J, Karram MM	2003	Obstet Gynecol 2003; 101: 1055-8	1	Erosion in die Urethra												
A rare complication with TVT: vaginal protrusion of the tape	Litke C, Wei A	2002	Int J Urogynecol J Pelvic Floor Dysfunct 2002; 13(5): 530-1	1	vaginale Erosion												
blinking																	
Endoscopic evacuation of Durasphere	Haritano VH, Lighter DJ, Nils WW	2003	Urology 2003; 62: 135-7	1	Retention												
Publikation	Autor	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschuss	Bemerkungen
2003 - 2008																	
colposuspension																	
"stress urinary incontinence" AND complication AND colposuspension																	
Stone formation on surgical staple in the bladder: a long-term complication of laparoscopic colposuspension.	Tricili C, Seckiner I, Mungan NA, Adigun B	2007	Surf Laparosc Endosc Percutan Tech. 2007 Dec; 17(6):568-9.	1										bladder stone that developed around a surgical staple 9 years after laparoscopic colposuspension. Endoscopically removed.	kein Volltext		
Placement of a urethral catheter into the ureter: An unexpected complication after retropubic suspension.	Hara N, Ueki H, Bilim V, Takahashi K	2005	Int J Urol. 2005 Feb; 12(2):217-9.	1										A 16 Fr urethral balloon catheter was unintentionally placed into the left ureter through the ureteral orifice in a 51-year-old woman following retropubic suspension surgery. Reoperation: double pig-tail ureteral stent was placed. Unremarkable recovery process.			

Bladder perforation of the tension-free vaginal tape detected with a flexible cystoscope	Tanaka T, Kobayashi K, Hirose T	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2006 Oct;52(10):806-6.			1													Bladder Erosion after TVT. Reoperation: Excision of tape
Ceal perforation complicating placement of a transvaginal tension-free vaginal tape.	Gruber ED, Wieserna DS, Dunn JS, Medrum KA, Krivak TC	2007	Int Urogynecol J Pelvic Floor Dysfunct. 2007 Jun;18(6):671-3.			1													TVT. Coecal perforation. Reoperation: Laparosomy
Nerve injury: an exceptional cause of pain after TVT.	Verweil HA, Bongers MF, van der Waarf AA	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2006 Nov;17(9):665-7.			1													severe retropubic pain after TVT. No reoperation, locally injected analgetics and corticosteroids
Occult intraperitoneal bladder injury after a tension-free vaginal tape procedure	Chung BS, Lee T, Kim JS, Lee HJ	2005	Yonsei Med J. 2005 Dec 31;46(8):874-6.			1													TVT. introp. Cystoscopy no perforation, day after tape in the bladder
Removal of a missed polypropylene tape by a combined transurethral and transabdominal endoscopic approach.	Corneli EB, Verweil HA	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2006 May Jun;16(3):247-9.			1													removal of an intravesical polypropylene tape by a combined transurethral and transabdominal endoscopic approach 3 months after TVT
Development of vesical calculi following tension-free vaginal tape procedure.	Er S, Aslam G, Cimen S, Bozkurt O, Celebi I	2005	Int Urogynecol J Pelvic Floor Dysfunct. 2005 May Jun;16(3):245-6.			1													Vesical calculi after unrolled bladder perforation during TVT. Endoscopic lithotripsy of the bladder calculi was performed and the TVT sling material was removed
Unrecognized bladder perforation while placing a suburethral synthetic sling: a minimally invasive technique for removing an intravesical sling segment	Chan LW, Tse VW	2008	BJU Int. 2008 Jan;98(1):187-8.			1													PVS in bladder 9 month after surgery. Reoperation: Cystoscopic with suprapubic trocar
Austrian registry TVT 2001																			
Tension-free vaginal tape operation: results of the Austrian registry	Tamussino KF, Hancs E, Koller D, Ralph G, Riss PA	2001	Obstet Gynecol. 2001 Nov;98(6 Pt 1):732-6.			2756													75 (2.2%) bladder perforation (risk factors: previous POP surgery, previous Colposuspension, Postop UTI 17%, Postop. Reop: 2.6% (Voiding dysfunction, Hematoma, 1 small bowel perforation)
Austrian registry TVT 2005																			
Bleeding complications with the tension-free vaginal tape operation	Koller D, Tamussino K, Hanzel E, Dammal A, Prayer O, Bader A, Enzelsberger H, Ralph G, Riss P	2005	Am J Obstet Gynecol. 2005 Dec;193(6):2048-9.			5576													Bleeding 2.7%; Reoperation or conversion: 0.8%; no deaths
Norwegian registry TVT/TOT																			
TVT compared with TVT-O and TOT: results from the Norwegian National Incontinence Registry	Dyvikorn GA, Kjuene-Hanssen S, Sandvik L	2010	Int Urogynecol J. 2010 Nov;21(11):1321-6																TVT TVT-O TOT: Bladder perforation 3.5%, 0.8%, 0.5%; Hematoma 1.2%, 0.5% 0%; Urinary retention 1.6%, 0.5% 1.6%; Infection 0.7% 0.5% 0.6%
Transoburator tape																			
"stress urinary incontinence" AND complication AND "tension free vaginal tape"																			
Some complications of tension-free urethral tapes for the treatment of stress incontinence in women	Hessakers JP, Viehoef ME	2007	Neel Tijdschr Geneesk. 2007 Jun 16;151(241):191-6.			1													1 pt with worsening OAB after TVT-O. Reoperation: adjustment of the tape tension, 1 pt.
"stress urinary incontinence" AND complication AND "transoburator tape"																			
Neurotizing fasciitis following transoburator tape treated by extensive surgery and hyperbaric oxygen	Flam F, Bojsten M, Lind F	2009	Int Urogynecol J Pelvic Floor Dysfunct. 2009 Jun;20(1):1115-5.			1													neurotizing fasciitis developed shortly after TVT-O. Reoperations: debridements, a diverting colostomy, antibiotics, and eight sessions of hyperbaric oxygen (HBO) therapy.
A late complication of transoburator tape: abscess and myositis	Lisana V, Garozzo V, Azzardo M, Molino A, Conca M, Biale A	2008	Minerva Ginecol. 2008 Feb;60(1):91-4.			1													Mesh erosion, groin abscess and myositis after TOT. Reoperation: removing the tape through the vaginal erosion.
Vesicovaginal fistula after transoburator tape	Jasalski Y, Sargent F, Tarnay V, Marpeau L	2007	Prog Urol. 2007 Apr;17(2):253-5.			1													bladder injury during insertion of TOT, secondary formation of a vesicovaginal fistula after insertion of the tape, despite satisfactory repair of the bladder
Groin abscess secondary to transoburator tape erosion: case report and literature review	March F, Rogerson L	2007	NeuroUrol Urolyn. 2007;26(4):543-6.			1													Obtapse, 8 weeks later erosion, excision of eroded tape under GA, 2 weeks later: groin abscess, incision, drainage and debridement of necrotic areas of gracilis and adductor muscles
Vaginal tape erosion following transoburator tape (TOT) operation for stress urinary incontinence	Oryshka BA, Ogan J	2006	J Obstet Gynaecol. 2006 Nov;26(8):892-3.			7													Obtapse: series of erosions & management
Five cases of tape erosion after transoburator surgery for urinary incontinence	Robust M, Murphy M, Birch C, Shealy C, Ross S	2006	Obstet Gynecol. 2006 Feb;107(2 Pt 2):472-4.			5													outside-in 5 cases with vaginal erosion, 1 with additional groin abscess. Reoperations: trim (n = 3), resect (n = 1) or remove (n = 1) the tape
Vaginal wall erosion after transoburator tape procedure.	but I.	2005	Int Urogynecol J Pelvic Floor Dysfunct. 2005 Nov-Dec;16(8):508-8.			2													Monarc: 2 patients with vag Erosion 6 weeks after surgery. Reoperation:perineal portion of the tape was removed and a new Proline tape was placed through the retropubic space
"stress urinary incontinence" AND bleeding																			
Pelvic hematoma following transoburator tape procedure: case report and review of literature	Anast JW, Williams BR, Klutke C	2008	Can J Urol. 2008 Feb;15(1):3600-2.			1													11 cm hematoma in the Retzius space after TOS. Conservative management.
Obturator hematoma after the transoburator suburethral tape procedure	Sun MJ, Chen GD, Lin KC	2006	Obstet Gynecol. 2006 Sep;108(3 Pt 2):716-8.			1													inside-out transoburator tape: Obturator hematoma 5 days after surgery. Conservative treatment
Vulvar hematoma following a transoburator sling (TVT-O).	Richards SR, Balalocki SP	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2006 Nov;17(8):872-3.			1													Vulvar hematoma 5 hrs after TVT-O. Conservative management
Pelvic hematoma following placement of Transoburator Tape	Cogas P, Huffer BK	2005	Tem Med. 2005 Sep;88(9):443-4.			1													?
Retropubic hematoma after transoburator sling procedure	Rajan S, Kishi M	2005	Obstet Gynecol. 2005 Nov;106(5 Pt 2):1199-202.			2													2 pts with retropubic hematoma after TVT-O. 1 pt with conservative treatment, 1 pt with CT-guided drainage
"stress urinary incontinence" AND erosion																			
Perineal cellulitis as a late complication of trans-oburator sub-urethral tape.	Marquee AL, Aparicio C, Obatae	2007	Int Urogynecol J Pelvic Floor Dysfunct. 2007 Jul;18(7):821-2.			3													perineal cellulitis occurring 10 months after Obtape
Obturator abscess after transoburator tape for stress urinary incontinence.	Raffi A, Jacob D, Deval B	2006	Obstet Gynecol. 2006 Sep;108(3 Pt 2):720-3.			3													outside-in, Mentor-Porges: 3 pts with vaginal erosion and groin abscess. Reoperations: Removal of tapes + antibiotics
Perineal cellulitis and persistent vaginal erosion after transoburator tape (Obtape) - case report and review of the literature	Sivanesan K, Baderi-Fallah M, Tierney J	2007	Int Urogynecol J Pelvic Floor Dysfunct. 2007 Feb;18(2):219-21.			1													Obtapse: vag. Erosion and perineal cellulitis. Reoperation: Removal of tape, antibiotics
Prepubic and thigh abscess after successive placement of two suburethral slings	Dielleux X, Domadieu AC, Mordefroid M, Lesante S, Frydman R, Fernandez H	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2007 May;18(5):571-4.			1													Prepubic (II) TVT. Obtape 2 month later due to unsuccessful prepubic tape. After 7 month vag Erosion, both tapes removed, 9 month later prepubic abscess, Removal of prepubic tape
Severe soft tissue infection of the thigh after vaginal erosion of transoburator tape for stress urinary incontinence	Karsenty G, Borjan J, Zlayat E, Lemieux MC, Corcos J	2007	Int Urogynecol J Pelvic Floor Dysfunct. 2007 Feb;18(2):207-12.			3													Obtapse: vag. Erosion and Thigh abscess 9/10/15 month after surgery. Reoperation: Removal of tape, thigh incisions, resectionomy

Vaginal erosion, sinus formation, and ischioanal abscesses following transobturator tape: CoTape® implantation.	Babalola EO, Ramavide AO, McCune LJ, Gehbart JB, Klingele CJ.	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2006 Jun;17(4):418-21.			1													Vaginal erosion, sinus formation, and ischioanal abscesses following CoTape. Reoperation: Removal of tape, antibiotics.
Abcess formation at the ischioanal fossa 7 months after the application of synthetic transobturator sling for stress urinary incontinence in a type II diabetic woman	Benasa G, Alarcon L, Accorsi F, Angeloni M, Benassi L.	2007	Int Urogynecol J Pelvic Floor Dysfunct. 2007 Jun;18(6):697-9.			1													Monarc. Reoperations: sling removal, antibiotic therapy and finally surgical excisions to facilitate drainage of the abscess.
Perineal cellulitis following trans-obturator sub-urethral tape Uraltape	Caquart F, Collinet P, Denelle P, Luont JP, Cossor M.	2005	Eur Urol. 2005 Jan;47(1):108-10.			2													Uraltape (Porges): 2 cases of perineal cellulitis.
"stress urinary incontinence" AND perforation																			
Transobturator tape, bladder perforation, and paravaginal defect: a case report	Smith PD, Appell RA.	2007	Int Urogynecol J Pelvic Floor Dysfunct. 2007 Jan;18(1):99-101.			1													TOT Intrap. Bladder perforation, noticed postoperatively.
"stress urinary incontinence" AND complication AND "inside-out"																			
"stress urinary incontinence" AND complication AND "inside-out"																			
"stress urinary incontinence" AND complication AND "outside in"																			
"stress urinary incontinence" AND complication AND "outside-in"																			
Austrian registry TVT-O																			
Transobturator tape for stress urinary incontinence: Results of the Austrian registry.	Jaramas K, Hanzal E, Kollé D, Jaramas A, Preyer O, Urmak W, Bjelic-Radicic V, Einzelsberger H, Lang PF, Raab G, Riss P.	2007	Am J Obstet Gynecol. 2007 Dec;197(6):834.e1-5.			2543		Registry											Intrap; increased bleeding 3.3%, vaginal perforation 0.4%, bladder perforations 0.4%, urethral perforation 0.1%, Reoperation rate: 2.2% (voiding dysfunction 0.9%, tape erosion 0.4%, groin abscess 0.3%)
prepubic tape																			
"stress urinary incontinence" AND erosion																			
Prepubic and thigh abscess after successive placement of two suburethral slings	Oeffoux X, Donnadeu AC, Mordefroid M, Levante S, Fryneman R, Fernandez H.	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2007 May;18(5):571-4.			1													Prepubic (II) TVT Ohtape 2 month later due to unsuccessful prepubic tape. After 7 month vag Erosion, both tapes removed, 9 month later prepubic abscess. Removal of prepubic tape.
"stress urinary incontinence" AND complication AND minimal																			
"stress urinary incontinence" AND bleeding																			
Tension-free vaginal tape Secur hammock procedure: two additional cases of intraoperative bleeding.	Araoz F, Stavante G, Sestí F, Riccone E.	2009	Int Urogynecol J Pelvic Floor Dysfunct. 2009 Jan;20(1):125.			2													2 cases of intraoperative haemorrhages during TVT-S hammock position. Intraoperative compression, vag. Packing
Severe bleeding from internal obturator muscle following tension-free vaginal tape Secur hammock approach	Masala J, Martini A, Svabik K.	2008	Int Urogynecol J Pelvic Floor Dysfunct. 2008 Nov;19(11):1581-3.			1													bleeding into Retzius space 3 hrs after TVT-S hammock
bulking agent																			
"stress urinary incontinence" AND complication AND "bulking agent"																			
Simple aspiration technique to address voiding dysfunction associated with transurethral injection of dexamethanone/hyaluronic acid copolymer	Petroz SF, Pak RW, Lightner DJ.	2006	Urology. 2006 Jul;68(1):186-8.			2													Zurdex: 2 pt with suburethral cyst 6 and 9 weeks after Quixes. Reoperation: transurethral aspiration of fluid (1 GA, 1 LA)
artificial urinary sphincter																			
"stress urinary incontinence" AND complication AND "artificial urinary sphincter"																			
urethral																			
"stress urinary incontinence" AND complication AND pessary bladder neck suspension																			
"stress urinary incontinence" AND bleeding																			
Suprapubic-vaginoocutaneous fistula 18 years after a bladder-neck suspension	Giles DL, Davitt GW.	2000	Chest Gynecol. 2005 May;105(5 Pt 2):1193-5.																Suprapubic-vaginoocutaneous fistula 18 years after a bladder-neck suspension.
"stress urinary incontinence" AND erosion																			
Delayed reaction to the Diacon buttress used in Stamey bladder neck suspension.	Gregorakis A, Bouroupous C, Demirou D, Rallis G, Hemandakis S, Papadopoulos HN, Kastriotis I.	2006	Int Urol Nephrol. 2006;38(2):269-72.																Delayed reaction with bladder wall erosion to the Diacon buttress used in Stamey urethropexy 19 years before. Reoperation: cystoscopic removal of suture and buttress
Publication																			
Author	Jahr	Quelle	Interessenskonflikt	Anzahl Patienten	Drop out rate	Studiendesign	Präoperative Ultraschalltechnik	Parameter der Bildgebung	Intervention	Kontrolle	Einschränkung der Qualität	Besonderheit	Statistische Analyse	Clinical Outcome	Begründung für Ausschluss	Bemerkungen			
2009-2012 colposuspension																			
"stress urinary incontinence" AND complication AND colposuspension																			
"stress urinary incontinence" AND hysterectomy																			
An unexpected cause of dyspareunia and partner dyspareunia following TVT Secur	Roth TM	2009	Int Urogynecol J Pelvic Floor Dysfunct. 2009; 20(11): 1381-2.			1													abdominal pain, dyspareunia, dysuria, and urinary urgency and frequency after a laparoscopic Burch and paravaginal repair. Reoperation: Exploratory laparoscopy revealed dense fibrous adhesions in the space of Retzius along with mesh, permanent suture, and 13 helical tacks
retropubic tape																			
"stress urinary incontinence" AND complication AND "tension free vaginal tape"																			
Tension-free vaginal tape bowel perforation	Huffaker PM, Shull BL.	2010	Int Urogynecol J. 2010; 21(2): 291-3.			1													urethral diverticulum 6 month after TVT, associated with SIB. Reoperation: Resection of tape, diverticulum-removement, pubovaginal sling
Transurethral resection of tension-free vaginal tape under tactile traction.	Gairol LK, Cundiff GW.	2006	Int Urogynecol J Pelvic Floor Dysfunct. 2009 Jul;20(7):873-5.			1													Urethral erosion 6 years after TVT. Reoperation: transurethral resection under tactile traction.
Case report of tension-free vaginal tape associated bowel obstruction and relationship to body habitus	Phillips L, Flood CG, Schuch JA.	2009	Int Urogynecol J Pelvic Floor Dysfunct. 2009 Mar;20(3):367-8.			1													small-bowel obstruction 3 years after TVT due to TVT tape violating the peritoneum and causing the distal ileum to adhere to the pelvic sidewall. Reoperation: compromised bowel was resected and primary anastomosis performed.

tension-free vaginal tape Secur hammock procedure: two additional cases of intraoperative bleeding.	Araco F, Gravante G, Sassi F, Piccione E.	2009	Int Urogynecol J Pelvic Floor Dyfunct. 2009 Jan;20(1):125.																2 cases of intraoperative haemorrhages during TVT-S hammock position. Intraoperative compression, vag Packing
bulking agent																			
"stress urinary incontinence" AND complication AND "bulking agent"																			
artificial urinary sphincter																			
"stress urinary incontinence" AND complication AND "artificial urinary sphincter"																			
pessary																			
"stress urinary incontinence" AND complication AND pessary																			
bladder neck suspension																			
"stress urinary incontinence" AND bleeding																			
"stress urinary incontinence" AND erosion																			
																			Delayed reaction with bladder wall erosion to the Diacon buttress used in Stamey urethropexy 18 years before. Reoperation: cystoscopic removal of suture and Buttress