Introduction
The condition of urinary incontinence is far more prevalent in women than men with a significant progress in incidence with the increase of age.

Diagnosis
The first contact a patient has with healthcare providers should always focus on basic diagnostic tests, a physical examination and careful assessment of the patient’s history, since this approach is always readily available.

If an accurate diagnosis of the disease requires further investigation (e.g. complex situations, such as neuropathic bladder), or if the initial treatment has failed, specialized diagnostics and sub-specific treatment options may become necessary.

For practical reasons, the guidelines presented here have been split up according to the target sub-populations (women, men, patients with neuropathic bladders and elderly patients and
Urinary Incontinence

children). Each management algorithm is constructed chronologically and comprises the following features:

1. Assessment of the patient’s history and symptoms
2. Clinical assessment of symptoms and disorders
3. Determination of condition and underlying pathophysiology
4. Therapeutic options, split into initial treatment and specialized therapy.

For comparability and research reasons, questionnaires on symptom scores and quality of life should be standardized. The validated ICIQ-SF questionnaire, developed by the International Consultation on Incontinence, represents a good compromise between scientific expectations and practicability and is therefore recommended for investigation of urinary incontinence.
Many people leak urine some of the time. We are trying to find out how many people leak urine, and how much this bothers them. We would be grateful if you could answer the following questions, thinking about how you have been, on average, over the PAST FOUR WEEKS.

1 Please write in your date of birth: 

2 Are you (tick one):

Female | Male |

3 How often do you leak urine? (Tick one box)

- never | 0
- about once a week or less often | 1
- two or three times a week | 2
- about once a day | 3
- several times a day | 4
- all the time | 5

4 We would like to know how much urine you think leaks. How much urine do you usually leak (whether you wear protection or not)? (Tick one box)

- none | 0
- a small amount | 2
- a moderate amount | 4
- a large amount | 6

5 Overall, how much does leaking urine interfere with your everyday life?
Please ring a number between 0 (not at all) and 10 (a great deal)

0 1 2 3 4 5 6 7 8 9 10

not at all | a great deal

ICIQ score: sum scores 3+4+5

6 When does urine leak? (Please tick all that apply to you)

- never – urine does not leak
- leaks before you can get to the toilet
- leaks when you cough or sneeze
- leaks when you are asleep
- leaks when you are physically active/exercising
- leaks when you have finished urinating and are dressed
- leaks for no obvious reason
- leaks all the time

Thank you very much for answering these questions.
The introduction of the balanced serotonine and norepinephrine reuptake inhibitor duloxetine has enriched the conservative armamentarium of incontinence treatment in women. Its usefulness is especially promising if combined with pelvic floor exercises.

In patients with mixed incontinence, the predominant condition should be treated first.

Specialized management is necessary in women with complex history whose PVR exceeds 10% of the bladder capacity. Additionally, patients with significant pelvic organ prolapse and/or failed initial therapy should be referred to specialists promptly.
Specialized Management

Only through cystometry can one differentiate between motor urge (overactive detrusor) and sensor urge (bladder hypersensitivity) in patients with symptoms suggestive of urge incontinence.

Recent studies have demonstrated promising results for botulinum toxin A detrusor injections in the treatment of urge incontinence. Since botulinum toxin is not approved for this indication, treatment should be restricted to specialized centres only.

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<tr>
<th>History/Symptom Assessment</th>
<th>Incontinence on Physical Activity</th>
<th>Incontinence with Mixed Symptoms</th>
<th>Incontinence with Urgency/Frequency</th>
<th>Complex history, e.g.:</th>
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**Clinical Assessment**

- Assess for pelvic organ mobility/prolapse
- Urodynamics

**Condition**

- Stress Incontinence
- Mixed Incontinence
- Urge Incontinence
- “Overflow” Incontinence

**Pathophysiology**

- Sphincteric incompetence
- Bladder hypersensitivity
- Overactive Detrusor
- Bladder Outlet Obstruction
- Underactive Detrusor
- Lower Urinary Tract Anomaly/Pathology

**Treatment**

- If initial therapy fails:
  - Stress incontinence surgery:
    - low tension slings
    - anti-reflux valves
    - bulking agents
    - AUS
  - Neurostimulation
  - Social blockade
  - Balloon urethral/detrusor injections
  - Bladder augmentation/substitution
  - Urethral diversions

- If initial therapy fails:
  - Intermittent catheterization (IC)
  - Biofeedback
  - Neurostimulation
  - Correct anatomic BOO (Correct prolapse)
  - Correct anomaly
  - Treat pathology

Consider:
- Urethrocytology
- POP / Risk analysis
- VODS/urography
- Ultrasound/IVP
Management of Urinary Incontinence in Men

Initial Management

Initial Management of Urinary Incontinence in Men

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<th>HISTORY/SYMPTOM ASSESSMENT</th>
<th>Post-micturition Dribble</th>
<th>Post-Prostatectomy Incontinence</th>
<th>Incontinence with Urgency/Frequency</th>
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<td>● Urinary diary and symptom score</td>
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<td>● Assess quality of life and desire for treatment</td>
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<td>● Physical examination: abdominal, rectal, sacral neurological</td>
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<td>● Urinalysis ± urine culture -&gt; if infected, treat and reassess</td>
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<td>● Assess PVR: physical exam./catheterization/ultrasound</td>
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<td>PRESUMED CONDITION</td>
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<td>● Stress INCONTINENCE</td>
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<td>TREATMENT</td>
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<td>SPECIALIZED MANAGEMENT</td>
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Specialized Management

Specialized Management of Urinary Incontinence in Men

| HISTORY/SYMPTOM ASSESSMENT | Post-Prostatectomy | Incontinence with Urgency/Frequency | Complex history, e.g.:
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Stress INCONTINENCE

Mixed INCONTINENCE

Urgo INCONTINENCE

Overflow INCONTINENCE

If initial therapy fails:

Overactive Detrusor

Underactive Detrusor

Lower Urinary Tract Anomaly/Pathology

Consider:

- Urethrocystoscopy
- PVR/Flow rates
- VCUG/urethrogram
- Ultrasound/IVP

128 Urinary Incontinence
If the initial empirical treatment fails, special management is indicated for all cases of neurogenic incontinence.
Specialized Management of Neurogenic Urinary Incontinence

**LEVEL OF LESION/HISTORY ASSESSMENT**
- Peripheral Nerve Lesion (e.g. Radical Pelvic Surgery)
- Conus/Cauda Lesion (e.g. Lumbar Disc Prolapse)
- Suprasacral Infraontine Spinal Cord Lesion
- Supraontine Cerebral Lesion (e.g. Parkinson’s Disease, Stroke, Alzheimer’s Disease)

**CLINICAL ASSESSMENT**
- Urodynamics (consider the need for simultaneous imaging/EMG)
- Urinary tract imaging -> if abnormal: renal scan

**CONDITION**
- STRESS INCONTINENCE
- “OVERFLOW” INCONTINENCE
- REFLEX INCONTINENCE (spinal)
- DETRUSOR HYPERREFLEXIA (cerebral)

**PATHO-PHYSIOLOGY**
- Sphincteric Incompetence
- Detrusor Areflexia
- Detrusor Hyperreflexia with DSD
- Detrusor Hyperreflexia without DSD

**TREATMENT**
- Time voiding
- Est. Appliances
- Bulking agents
- Artificial sphincter
- Sling procedure
- E.C. Alpha blockers
- Intravesical anticholinergics
- Beta-blocker
- Trigeminal veins
- Antimuscarinics
- Soluble toke
- Detrusor injections
- Antimuscarinics, u/E.
- Soluble toke detrusor injections
- SDAF = Sacral deafferentation
- SARS = Sacral anterior root stimulation
- IC = Intravesical electrodes/FEES
- Bladder expression
- Trigger voiding
- Antimuscarinics ± IC
- Artificial sphincter
- Sling procedure
- Behavioral modification (time voiding)
- Antimuscarinics
- Neurostimulation
- Botulinum toxin detrusor injections
- Bladder augmentation/substitution
- Urinary diversion
- Behavioral modification (time voiding)
- Antimuscarinics
- Neurostimulation
- Detrusor augmentation/substitution
- Cooperatively mobile patient
- Uncooperatively immobile patient

Management of Urinary Incontinence in Frail/Disabled Older People

**HISTORY/SYMPHOM ASSESSMENT**
- Assess reversible conditions (see “DIAPPERS”) -> if present, treat/correct and reassess
- Assess CNS, cognition, mobility, activities of daily life (ADL), “frailty”
- Physical examination abdominal, perineal, rectal, sacral neurological
- Attempt to demonstrate incontinence when coughing (stress test)
- Assess PVR: physical exam./catheterization/ultrasound

**CLINICAL ASSESSMENT**
- Assess quality of life and desire for treatment

**PREVIOUS CONDITION**
- STRESS INCONTINENCE
- URGE INCONTINENCE
- “OVERFLOW” INCONTINENCE

**INITIAL TREATMENT**
- Life style interventions
- Behavioral therapies
- Topical estrogens (women)
- Consider cautious addition and trial of antimuscarinics

**ONGOING MANAGEMENT AND REASSESSMENT**
- If fails, consider need for specialist assessment
- Continue conservative methods
- Dependent or contained continence

Incontinence associated with:
- Pain
- Haematuria
- Recurrent infection
- Pelvic mass
- Pelvic irradiation
- Pelvic surgery
- Major prolapse (women)
- Post-prostatectomy (men)
Due to their frequently impaired general health status, frail-disabled older people may be unfit for primary treatment regimens. In this case - or if initial treatment attempts fail – specialist reassessment and modified methods are indicated in order to achieve so-called ‘dependent’ or ‘contained’ continence.

Specialized management of urinary incontinence in frail-disabled people has to be individualized since it depends heavily on the patient’s condition.

**Management of Urinary Incontinence in Children**

**Initial Management**

Post-void residual urine (PVR) is an important diagnostic parameter that should be evaluated in patients with a complex history.
If any form of initial therapy fails specialized management is required.

Any complex urinary incontinence which is considered to need specialized management requires further urodynamic evaluation and repeated PVR assessments, since the manifold treatment strategies strongly depend on the correct diagnosis, and usually have to be individualized.

**Specialized Management**
**Conclusion**

Since urological specialists are generally available throughout Europe, their intervention should not be restricted to the ‘specialized’ level of management. Although this may appear to challenge the division of the algorithms into ‘initial’ and ‘specialized’ management, early specialist involvement - even at the level of the patient's first presentation - is highly recommended. This avoids needless and expensive diagnostics, discouraging treatment failures and an unnecessarily prolonged course of the disease due to the lesser experience of ‘generalists’.

*This short booklet text is based on the ICI Recommendations (derived from the 3rd ICI Conference Monaco, 2004) and the more comprehensive EAU guidelines (ISBN 90-806179-3-8), available to all members of the European Association of Urology at their website - http://www.uroweb.org.*