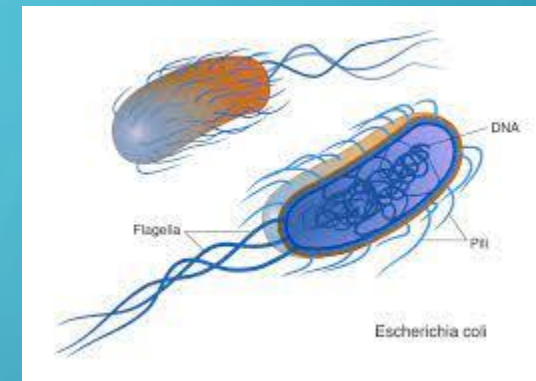


URINVEJSINFEKTIONER

FRANK SCHMIDT, OVL. PHD

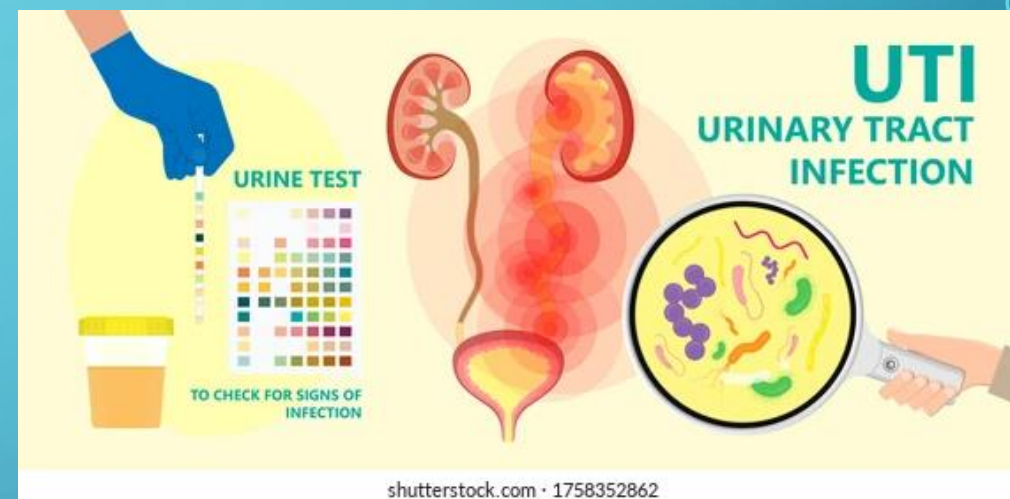
URINVEJSKIRURGI OG KLINIK FOR BÆKKENBUNDSLIDELSER

AARHUS UNIVERSITETS HOSPITAL

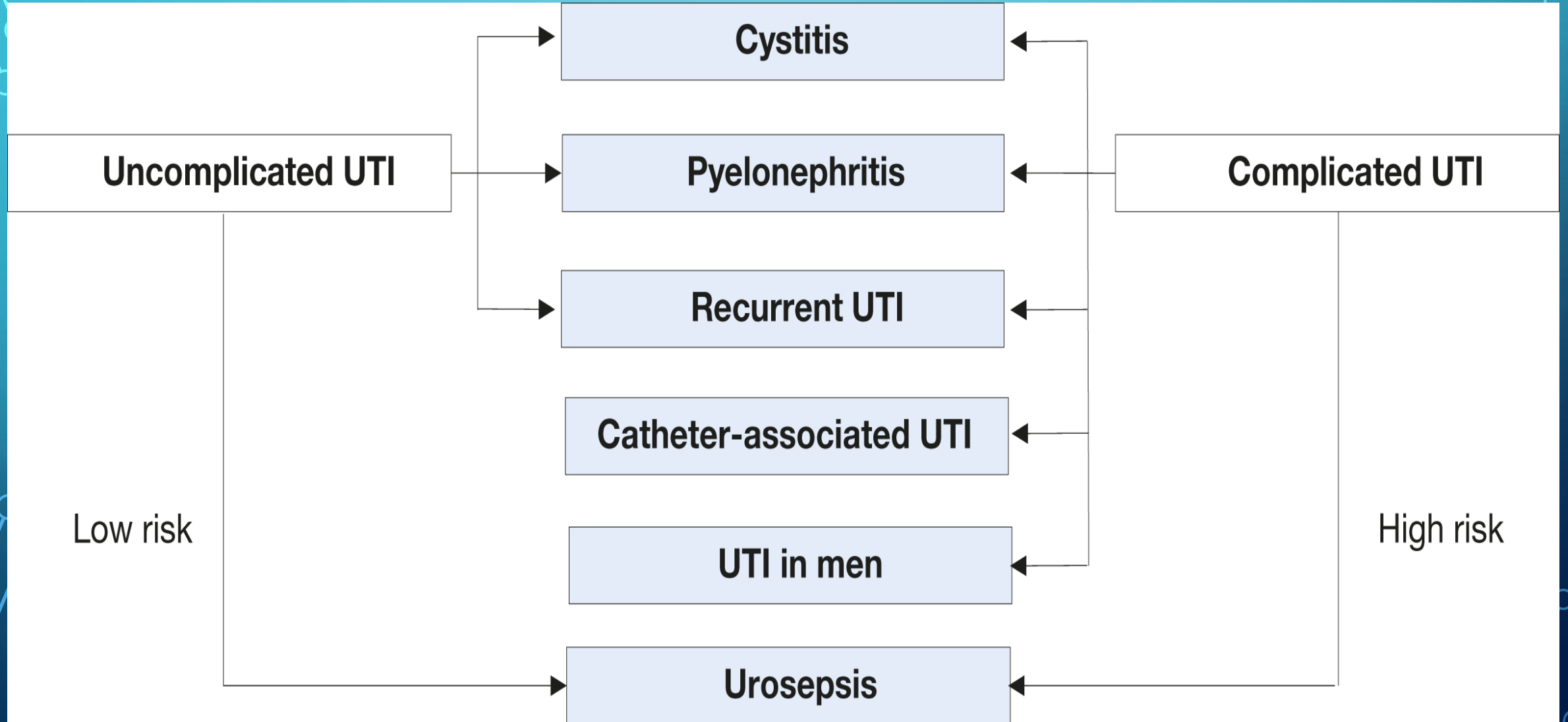


DEFINITION AF URINVEJSINFEKTION

- Infektion i urinvejenes organer.
- Asymptomatisk bakteriuri
- Cystitis (blærebetændelse)
- Recidiverende cystitis (gentagne blærebetændelser)
- Pyelonefritis (nyrebækken betændelse)



DEFINITIONER (UKOMPLICERET – KOMPLICERET UVI)



ASYMPTOMATISK BAKTERIURI

- Urinary growth of bacteria in an asymptomatic individual (asymptomatic bacteriuria - ABU) is common, and corresponds to a commensal colonisation [23]. Clinical studies have shown that ABU may protect against superinfecting symptomatic UTI, thus treatment of ABU should be performed only in cases of proven benefit for the patient to avoid the risk of selecting antimicrobial resistance and eradicating a potentially protective ABU strain

ASYMPTOMATISK BAKTERIURI

- Asymptomatisk bakteriuri **SKAL IKKE BEHANDLES**
- Forekommer hyppigt hos ptt med dårlig blæretømning
- Hos ptt med katetre (KAD, top-kateter, NFK)
- Hos ptt med dårlig hygiejne
- Hos gravide

Treatment of asymptomatic bacteriuria is not beneficial in the following conditions:

•women without risk factors;	3b
•patients with well-regulated diabetes mellitus;	1b
•post-menopausal women;	1a
•elderly institutionalised patients;	1a
•patients with dysfunctional and/or reconstructed lower urinary tracts;	2b
•patients with renal transplants;	1a
•patients prior to arthroplasty surgeries.	1b

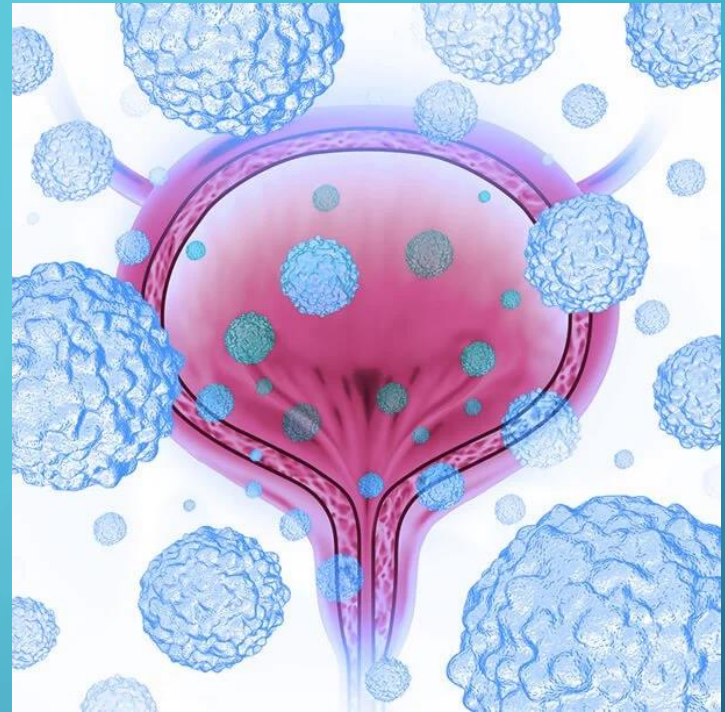
Treatment of asymptomatic bacteriuria is harmful in patients with recurrent urinary tract infections.	1 b
Treatment of asymptomatic bacteriuria is beneficial prior to urological procedures breaching the mucosa.	1 a
Treatment of asymptomatic bacteriuria in pregnant women was found to be beneficial by meta-analysis of the available evidence; however, most studies are old. A recent study reported lower rates of pyelonephritis in low-risk women.	1 a

ASYMPTOMATISK BAKTERIURI

<p>Do not screen or treat asymptomatic bacteriuria in the following conditions:</p> <ul style="list-style-type: none">•women without risk factors;•patients with well-regulated diabetes mellitus;•post-menopausal women;•elderly institutionalised patients;•patients with dysfunctional and/or reconstructed lower urinary tracts;•patients with renal transplants;•patients prior to arthroplasty surgeries;•patients with recurrent urinary tract infections.	Strong
<p>Screen for and treat asymptomatic bacteriuria prior to urological procedures breaching the mucosa.</p>	Strong
<p>Screen for and treat asymptomatic bacteriuria in pregnant women with standard short course treatment.</p>	Weak

CYSTITIS (BLÆREBETÆNDELSE)

- EAU's definition
- Uncomplicated cystitis is defined as acute, sporadic or recurrent cystitis limited to non-pregnant women with no known relevant anatomical and functional abnormalities within the urinary tract or comorbidities.



ALDERSRELATION FOR RECDIVERENDE CYSTITER HOS KVINDER

Young and pre-menopausal women	Post-menopausal and elderly women
<p data-bbox="364 419 784 462">Sexual intercourse</p> <p data-bbox="364 488 779 531">Use of spermicide</p> <p data-bbox="364 556 861 599">A new sexual partner</p> <p data-bbox="364 625 1054 668">A mother with a history of UTI</p> <p data-bbox="364 694 1085 736">History of UTI during childhood</p> <p data-bbox="364 762 1212 805">Blood group antigen secretory status</p>	<p data-bbox="1274 419 2035 462">History of UTI before menopause</p> <p data-bbox="1274 488 1735 531">Urinary incontinence</p> <p data-bbox="1274 556 2074 668">Atrophic vaginitis due to oestrogen deficiency</p> <p data-bbox="1274 694 1493 736">Cystocele</p> <p data-bbox="1274 762 2028 805">Increased post-void urine volume</p> <p data-bbox="1274 831 2117 873">Blood group antigen secretory status</p> <p data-bbox="1274 899 2086 1011">Urine catheterisation and functional status</p> <p data-bbox="1274 1036 2173 1133">deterioration in elderly institutionalised wo</p>

CYSTITIS TYPISKE SYMPTOMER

- Hyppige vandladninger
- Nyopstået urge
- Smertefulde vandladninger (tisser glasskår, brændende vandladninger)
- Feber
- Hos ældre kan det forekomme, at der ikke er blæresymptomer, men de er sløve, sløje og måske kognitivt ændrede.
- Plumret, ildelugtende urin, hvor et af de ovennævnte symptomer forekommer.

CYSTITIS (DIAGNOSTIK)

- Urinstix
- Urindyrkning hos egen læge
- Urindyrkning på mikrobiologisk afdeling
- Almindelig vurdering med temperaturmåling med mere.



CYSTITIS (BEHANDLING)

- Antibiotika (altid prøve at bruge så "smalt" et antibiotikum som muligt)
- Ved urinretention, sørge for, at der er afløb fra blæren fx KAD
- Husk at tage urin fra til D+R før opstart med behandling
- Kan man forebygge, at pt får gentagne infektioner.
- God intim hygiejne, kateterpleje mm

CYSTITIS (ANTIBIOTIKA)

- Sulfapræparater
- Mecillinam
- Trimetoprim
- Ampicillin/amoxicillin (ved enterobakter infektion)
- Amoxicillin/clavuransyre
- Nitrofuantoin
- Ciprofloxacin (KUN EFTER DYRKNINGSSVAR, OG HVIS ANDRE PRÆPARATER IKKE KAN BRUGES)

CYSTITIS (FOREBYGGELSE)

- SØRGE FOR RIGELIG VÆSKE (2-2½ LITER)
- SØRGE FOR HYPPIGE VANDLADNINGER (MAX TRE TIMER MELLEM TO VANDL)
- SØRGE FOR GOD BLÆRETØMNING
- GOD HYGIEJNE (UNDGÅ INTIMSÆBE)
- LOKALT ØSTROGEN
- RIK/SIK/top-KATER/KAD

CYSTITIS (FOREBYGGELSE)

- Hvordan ved jeg, om pt drikker nok og lader vandet hyppigt nok?

• VÆSKE VANDLADNINGS SKEMA

Kart kendte væsker, hvor meget de drikker og hvor ofte de går på toilet. Brug de små ikoner til vandføring i ml. Dato: _____ Dage: 7

Drikkevand	Væsker					Toilet	Vandføring	Hvor ofte de går på toilet			
	Alkohol	Sodt vand	Kop	Te	Andre væsker			Lidt mindre end normalt	Normalt	Lidt mere end normalt	Mere end normalt
06											
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Væske- og vandledningsdiagram

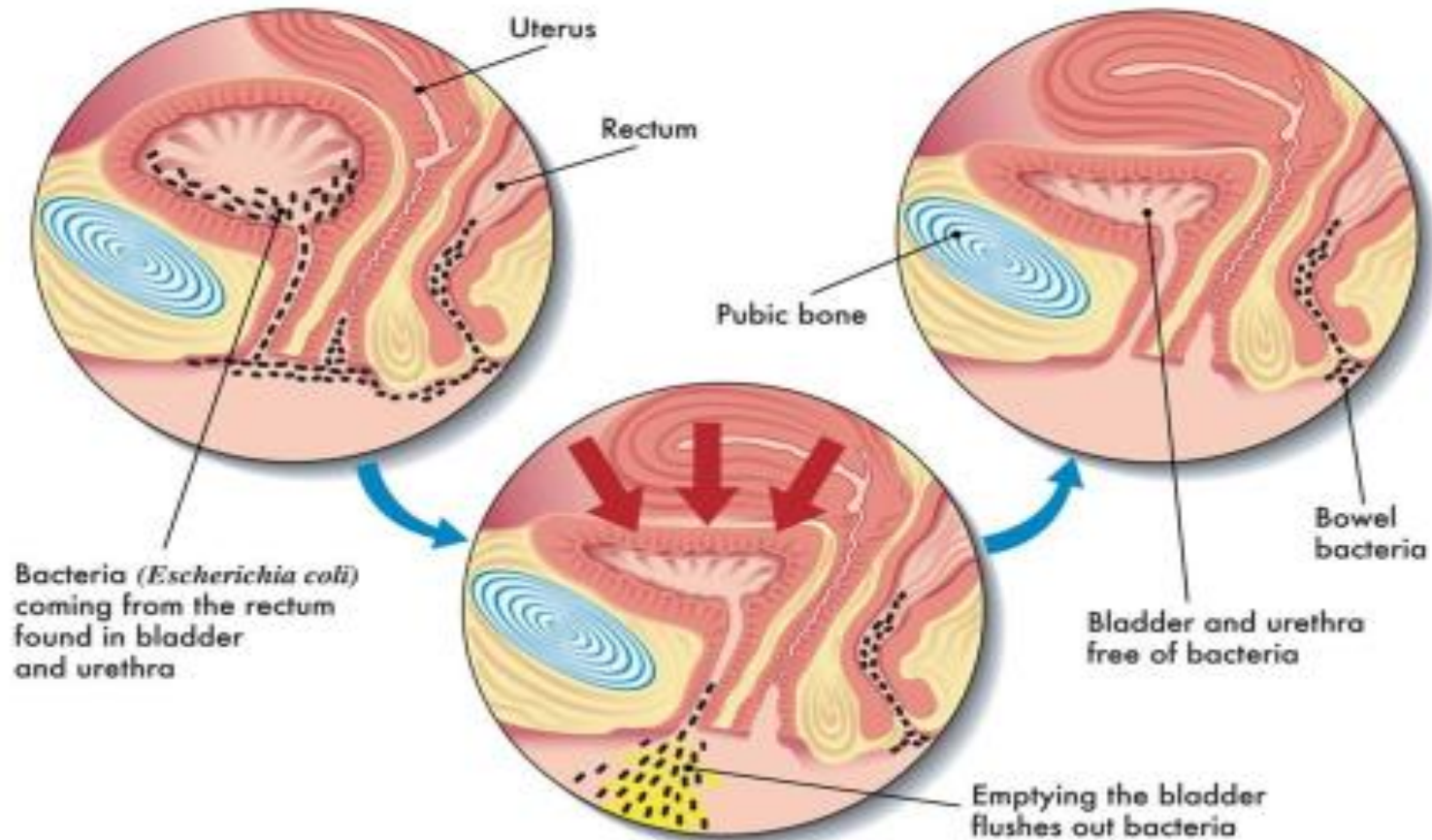
Dag 1

Klokken	Væskeindtagelse (ml)	Vandledningsdiagram	Udvalgte væsker	Blodtryk
7:30				
8:00				
8:30				
9:00				
9:30				
10:00				
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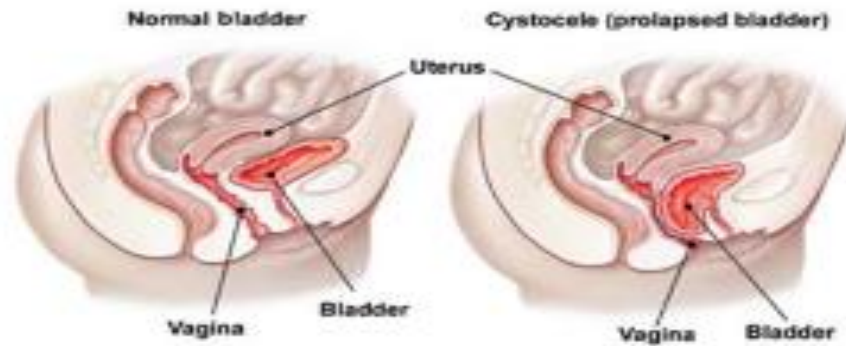
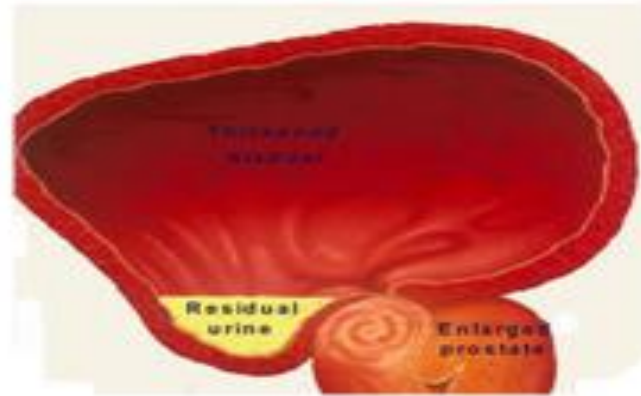


Det er vigtigt at drikke rigeligt og tisse ofte.

CYSTITIS



Dårlig blæretømning (rest-urin)



RECIDIVERENDE CYSTITIS

- Recurrent UTIs (rUTIs) are recurrences of uncomplicated and/or complicated UTIs, with a frequency of at least three UTIs/year or two UTIs in the last six months. Although rUTIs include both lower tract infection (cystitis) and upper tract infection (pyelonephritis), repeated pyelonephritis should prompt consideration of a complicated aetiology.

CYSTITIS RECIDIVANS (RISIKOFAKTORER)

Young and pre-menopausal women	Post-menopausal and elderly women
<p>Sexual intercourse</p> <p>Use of spermicide</p> <p>A new sexual partner</p> <p>A mother with a history of UTI</p> <p>History of UTI during childhood</p> <p>Blood group antigen secretory status</p>	<p>History of UTI before menopause</p> <p>Urinary incontinence</p> <p>Atrophic vaginitis due to oestrogen deficiency</p> <p>Cystocele</p> <p>Increased post-void urine volume</p> <p>Blood group antigen secretory status</p> <p>Urine catheterisation and functional status deterioration in elderly institutionalised women</p>

Summary of evidence and recommendations for the diagnostic evaluation and treatment of rUTIs

Summary of evidence	LE
Extensive routine workup including cystoscopy, imaging, etc., has a low diagnostic yield for the diagnosis of rUTI.	3
Increased water intake is an effective antimicrobial-sparing strategy to prevent rUTI in pre-menopausal women at high risk for recurrence who drink low volumes (< 1.5 L) of fluid daily.	3
Vaginal oestrogen replacement has shown a trend towards preventing rUTI in post-menopausal women.	1b
Immunoactive prophylaxis has been shown to be more effective than placebo in female patients with rUTIs in several RCTs with a good safety profile.	1a
Probiotics containing <i>L. rhamnosus</i> GR-1, <i>L. reuteri</i> B-54 and RC-14, <i>L. casei shirota</i> , or <i>L. crispatus</i> CTV-05 are effective for vaginal flora restoration and prevention of rUTIs.	1b
Current scientific evidence regarding the efficacy of cranberry products in the prevention of UTIs is divided.	1a
Based on limited evidence, D-mannose can significantly reduce the number of UTI episodes and can be an effective agent for UTI prevention in selected patients.	2
Based on limited evidence intravesical GAG therapy can reduce the number of UTIs per patient per year, and prolong the time interval between rUTI episodes.	2
Both continuous low-dose antimicrobial prophylaxis and post-coital antimicrobial prophylaxis, have been shown to reduce the rate of rUTI.	1b
A prospective cohort study showed that intermittent self-start therapy is effective, safe and economical in women with rUTIs.	

CYSTITS RECIDIVANS EAU ANBEFALINGER

Recommendations	Strength rating
Diagnose recurrent UTI by urine culture.	Strong
Do not perform an extensive routine workup (e.g cystoscopy, full abdominal ultrasound) in women younger than 40 years of age with recurrent UTI and no risk factors.	Weak
Advise pre-menopausal women regarding increased fluid intake as it might reduce the risk of recurrent UTI.	Weak
Use vaginal oestrogen replacement in post-menopausal women to prevent recurrent UTI.	Strong
Use immunoactive prophylaxis to reduce recurrent UTI in all age groups.	Strong
Advise patients on the use of local or oral probiotics containing strains of proven efficacy for vaginal flora regeneration to prevent UTIs.	Weak
Advise patients on the use of cranberry products to reduce recurrent UTI episodes; however, patients should be informed that the quality of evidence underpinning this is low with contradictory findings.	Weak
Use D-mannose to reduce recurrent UTI episodes, but patients should be informed that further studies are needed to confirm the results of initial trials.	Weak
Use endovesical instillations of hyaluronic acid or a combination of hyaluronic acid and chondroitin sulphate to prevent recurrent UTIs in patients where less invasive preventive approaches have been unsuccessful. Patients should be informed that further studies are needed to confirm the results of initial trials.	Weak
Use continuous or post-coital antimicrobial prophylaxis to prevent recurrent UTI when non-antimicrobial interventions have failed. Counsel patients regarding possible side effects.	Strong
For patients with good compliance self-administered short-term antimicrobial therapy should be considered.	

OPSUMMERING

- Symptomer: Hyppig vandl, urge, dysuri, feber, cognitive ændringer hos ældre
- Asymptomatisk bakteriuri: SKAL IKKE BEHANDLES
- Forebyggelse: Rigelig væske, hyppige vandladninger, RIK/SIK/KAD
- Medicinsk forebyggelse: lokalt østrogen ved postmenopausale kvinder
- Recidiverende cystiter: 3 UVler på et år eller to på et halvt år. Det er ikke recidiverende cystitis, hvis det blot er infektion, som ikke er behandlet i bund.
- Urindyrkning og resistens kun ved kompliserede cystiter.

OPSUMMERING

- Recidiverende cystiter: Urin til D+R, først begynde antibiotika, når urinen er taget fra.
- Væske-vandladnings skema mhp afklaring af væskeindtag.
- Evt profylaktisk antibiotika dvs antibiotika i små doser til sengetid. Altid kun efter D+R. Gerne væksle mellem flere præparater.
- Nitrofuantoin kun, hvis intet andet virker.
- Ciporfloxacin er et sidstevalgs præparat, kun efter D+R.

• SPØRGSMÅL

