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Female Urinary Incontinence - Doctors Summary

INCIDENCE

About 200,000 people suffer from incontinence in New Zealand of which about 80% are female.

(At least 10 million people in United States)

FACTORS MAINTAINING CONTINENCE

1. Stable bladder muscle with normal ability to expand without increase in pressure (compliance).

2. Intrinsic sphincter mechanism in the urethra.- The urethra is lined with mucosa and with a surrounding blood vessel "sponge" which acts as a washer. This is surrounded by muscle layers which contracts to close the urethra. These structures are dependent on oestrogen for normal function.

3. Extrinsic factors - The bladder and urethra is supported by muscle (pelvic floor) and ligaments (endopelvic fascia).

REASONS FOR INCONTINENCE

1. Bladder muscle overactivity. - Patients present with **URGE INCONTINENCE** which is due to bladder contraction which causes severe urge to pass urine and urine leaks out before reaching the toilet.

TREATMENT: Bladder muscle relaxants (Detrusitol (Tolterodine), Ditropan (Oxybutylin), Imipramin(Imipramine)), bladder training, physiotherapy.

2. Urethral incompetence. - This can be due to:

(a): Intrinsic sphincter deficiency (10-20% of patients with incontinence).

(b): Hypermobility of the urethra - which is damage to the extrinsic support of the bladder and urethra (80-90% of patients with incontinence).

These patients present with **STRESS INCONTINENCE** which means people are leaking during increased intra-abdominal pressure (coughing, sneezing, jumping or intercourse).

3. Overflow incontinence. - The bladder never empties due to obstruction of the urethra or inability of the bladder muscle to contract.

TREATMENT: Urethral dilatation, bladder neck incision, bladder muscle stimulants (Ubretid) or intermittent catheterisation.

NON SURGICAL TREATMENT OF STRESS INCONTINENCE

(a) General - Lose weight, stop smoking, treat coughing.

(b) Oestrogen - Lack of female hormones is a common cause of incontinence and will improve with hormonal replacement (The blood vessels and smooth muscle in the urethra shrink with a lack of oestrogen and can't close off).

(c) Stop alpha blockers (Hytrin or Cardoxan for blood pressure). They relax the urethral smooth muscle.

(d) Alpha stimulants - (Sudomyl (Pseudoephedrine)) Medication stimulating urethral muscle could be of help under certain circumstances but could also have side effects.

(e) Physiotherapy - Pelvic floor exercises and the knowledge of the function of the pelvic floor is essential. There are physiotherapists specialising in this field.

If the above treatments do not solve the problem a Specialist opinion is indicated.

URODYNAMIC STUDIES

This is sophisticated computer pressure studies of the bladder to evaluate the exact reason for the incontinence. It includes:

Flow study - This measures the flow of the urine.

Cystometrogram - This measures the pressure in the bladder while filling with fluid as well as the pressure in the rectum. This gives an indication of the stability of the bladder muscle.

Leak point pressure - This is to determine the bladder pressure at which leakage occurs and is a guidance of the type of surgery indicated. Pressure < 60cm water = intrinsic sphincter deficiency. Pressure > 60cm water = hypermobility of the urethra.

Pressure flow study - This is the measurement of the pressure in the bladder while passing urine to exclude obstruction.

Residual urine - The amount of urine staying in the bladder after passing urine is measured to distinguish between true incontinence and overflow incontinence.

SURGICAL TREATMENT OF STRESS INCONTINENCE

(a) Intrinsic sphincter deficiency - sling operation or peri-urethral injections.

(b) Hypermobility of the urethra - the bladder neck is elevated and suspended.

Burch Colpo-suspension is the operation most often used and with the best long term results. This is normally done laparoscopically with minimal pain and very quick recovery. Open surgery is indicated under certain circumstances. Less invasive procedures are sometimes used in elderly people like In Fast bone screws.

COMPLICATIONS OF SURGERY

(a) **Intra-operative** - It is sometimes impossible to do a laparoscopic procedure due to adhesions, blood vessels or other reasons and then it has to be converted into an open operation.

Bowel injury is possible but very unlikely.

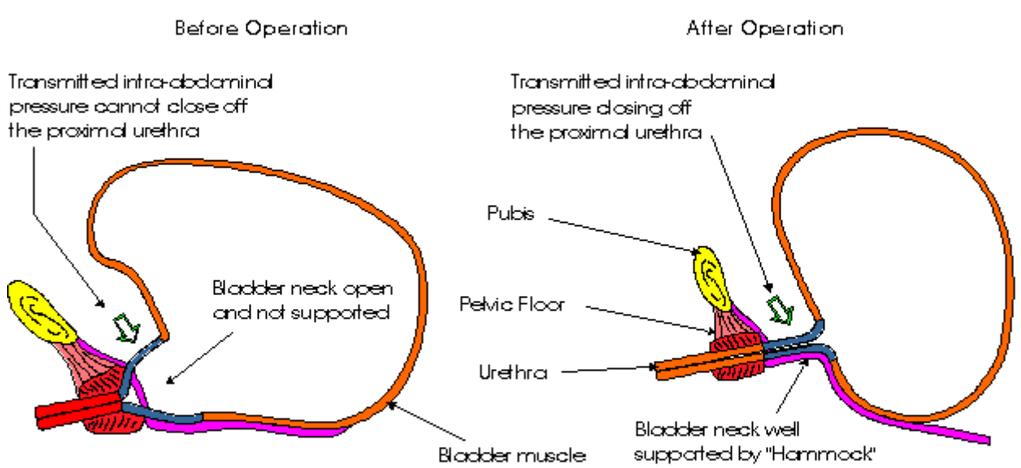
(b) **Post-operative** - Most people initially have urgency and even urge incontinence (they start leaking before they get to the toilet). This is most of the time only a temporary problem and will improve on treatment and as the patient recovers from surgery.

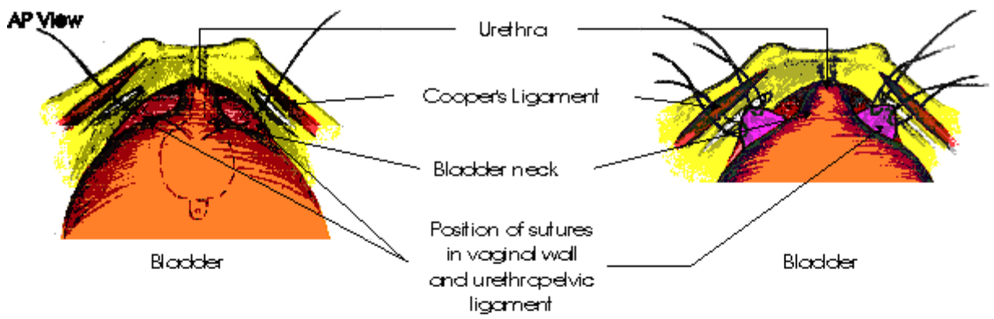
CONCLUSION

Any patient with incontinence deserves proper evaluation and treatment as most forms of incontinence are treatable even in the elderly patients.

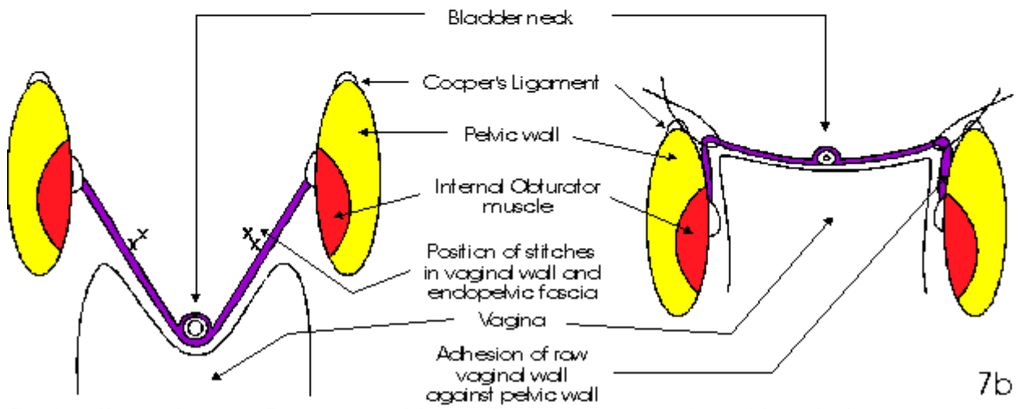
Surgery for Hypermobility of the Urethra

Bladderneck Suspension: *Burch Colposuspension*





Transverse section at Bladder neck



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