Geriatric Gynecology: Outline

- Post menopausal bleeding
- Genital skin conditions
- Urinary incontinence
- What’s (usually) not necessary…cervical cancer screening

Cervical Cancer Screening

<table>
<thead>
<tr>
<th>ACS 2002</th>
<th>USPSTF 2003</th>
<th>ACOG 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate Paps*</td>
<td>SD + 3 yrs or 21 yrs old</td>
<td>SD + 3 yrs or 21 yrs old</td>
</tr>
</tbody>
</table>
Pap interval
21-29 years old|Annual (glass) Q2 yr (LBC)|At least every 3 years|Every 2 years|
30-65 or 70 years old|Every 2-3 years|At least every 3 years|Every 3 years|
Discontinue Paps*|70 years old|65 years old|65-70 years old|
Hysterectomy (benign disease)|Not recommended|Not recommended|Not recommended|

* If 3 normal and no abnormal pap results in the prior 10 yrs
  - SD: sexual debut (age at first vaginal intercourse)
  - LBC: liquid based cytology

Postmenopausal Bleeding (PMB)

- Hormonal
  - Exogenous estrogens: hormone therapy (HT)
  - Endogenous estrogens: acute stress, estrogen-secreting ovarian tumor
- Anatomic
  - Atrophic vaginitis, foreign body
  - Endometrial hypoplasia (atrophy)
  - Endometrial hyperplasia
  - Uterine cancer: endometrial adenocarcinoma, corpus sarcoma
  - Cervical cancer: squamous, adenocarcinoma

Gynecologic Problems in Older Women

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Endometrial Cancer: Risk Factors

- **Age**: peak incidence 72 years old
  - 3x higher than 50-54 years old
  - 2% of endometrial cancers in women <40 y.o.
- **Chronic unopposed estrogen (E) exposure**
  - Related to E-level and duration of exposure
  - High body mass index (BMI)...obesity
  - Menopause >52 y.o. (2.4x); low parity (2-3x)
  - E- secreting tumor (granulosa-theca tumor)
  - Exogenous sources: ET, tamoxifen

Diabetes (RR= 2.8)
Hypertension (RR= 1.5)
Personal or family history of breast or colon cancer
HNPCC (Hereditary Non-Polyposis Colon Cancer)
  - 5% of all endometrial cancers
  - HNPCC women have 22-50% lifetime risk of endometrial cancer
ACS endometrial cancer screening guidelines (2001)
  - Annual EMB starting at 35 years old
  - Prophylactic hysterectomy and BSO after childbearing

Postmenopausal Bleeding: Evaluation

- If *not* using HT, evaluation is required by either
  - Endometrial biopsy (EMB), or
  - Endovaginal ultrasound (normal stripe is < 5 mm)
- If *using* HT, endometrial biopsy (EMB) to evaluate
  - Cont Combined -EPT: persistent bleeding > 3 months after HT initiation
  - Cont Sequential -EPT: persistent unscheduled bleeding
- Single episode of PMB; limited time and volume; explained
  - Observation is an acceptable option
  - If recurrent, endometrial evaluation is mandatory

Ultrasound Diagnosis of Endometrial Hyperplasia

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>&lt;5mm</th>
<th>6-10mm</th>
<th>11-15mm</th>
<th>&gt;15mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrophy</td>
<td>93%</td>
<td>7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperplasia</td>
<td>58%</td>
<td>42%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyp</td>
<td>53%</td>
<td>47%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td>18%</td>
<td>41%</td>
<td>41%</td>
<td></td>
</tr>
</tbody>
</table>

Grigoriou: Maturitus 23:9-14,1996
**Technique of EMB**

- Bimanual exam to evaluate uterine axis, size
- Cleanse cervix with antiseptic
- S-l-o-w-l-y apply tenaculum (+ local anesthetic)
- Use of the sampling device
  - Choose correct type (rigidity) of sampler
  - “Crack” stylet to ensure easy movement
  - Gently advance to fundus; expect resistance at internal os
  - Note depth of sounding with side markings
- Pull back stylet to establish vacuum

**Tips for Internal Os Stenosis**

- Pain relief
  - Use para-cervical or intra-cervical block
  - Intrauterine instillation of lidocaine
- Cervical dilation
  - Freeze endometrial sampler to increase rigidity
  - Grasp sampler with sponge forceps 3-4 cm from tip
  - Use cervical “os finder” device
  - Use small size Pratt or Hegar dilators
  - Give sublingual or vaginal misoprostol to soften cervix 4 hours before procedure

**PMB: Management**

- Insufficient EMB: not enough tissue for interpretation
  - If adequate sampling, atrophic endometrium likely
  - If sounding <5 cm, may not have entered cavity
- Chronic endometritis: + antibiotics
- Cystic hyperplasia or endometrial atrophy
  - Observe, or
  - Very low estrogen dose CC-EPT
- Simple endometrial hyperplasia
  - High dose progestin for 3-4 months, then re-biopsy
- Atypical endometrial hyperplasia: hysterectomy
- Endometrial cancer: hysterectomy + XRT
### Genital Skin Itching

**Infections**
- Candidiasis
- *Tinea cruris*

**Dermatitis**
- Psoriasis
- Seborrheic dermatitis
- Eczema

**Dermatoses**
- Lichen sclerosus
- Lichen simplex chronicus (LSC)
- LS + LSC

**Neoplasms**
- Vulvar Intraepithelial neoplasia (VIN)
- Paget’s Disease

### Vulvar Candidiasis

- Vulva will be very itchy; often excoriated
- **Presentation**
  - Erythema + satellite lesions
  - Occasionally: thrush, LSC thickening if chronic
- **Diagnosis:** skin scraping KOH, candidal culture
- **Treatment**
  - Topical antifungal therapy daily for 7-14 days, or fluconazole 150 mg PO repeat in 3 days
  - **Plus:** TAC 0.1% or 0.5% ointment QD-BID

### Tinea Cruris: “Jock Itch”

- Asymmetric lesions on proximal inner thighs
  - Plaque rarely involves scrotum; not penile shaft
- Well demarcated red plaques with accentuation of scale peripherally; no satellite lesions
- Fungal folliculitis: papules, nodules or pustules within area of plaque
- **Treatment**
  - Mild: topical azoles BID x10-14d, terbinafine
  - Severe: fluconazole 150 mg QW for 2-4 weeks
  - If inflammatory, add TAC 0.1% on 1st 3 days
Contact Dermatitis

- Irritant contact dermatitis (ICD)
  - Elicited in most people with a high enough dose
  - Rapid onset vulvar itching (hours-days)
- Allergic contact dermatitis (ACD)
  - Delayed hypersensitivity
  - 10-14 days after first exposure; 1-7 days after repeat exposure
- Atopy, ICD, ACD can all present with
  - Itching, burning, swelling, redness
  - Small vesicles or bullae more likely with ACD

Contact Dermatitis

- Common contact irritants
  - Urine, feces, excessive sweating
  - Saliva (receptive oral sex)
  - Repetitive scratching, overwashing
  - Detergents, fabric softeners
  - Topical corticosteroids
  - Toilet paper dyes and perfumes
  - Hygiene pads (and liners), sprays, douches
  - Lubricants, including condoms

Symmetric
- Raised, bright red, intense itching
- Extension to areas of irritant contact
**Contact Dermatitis: Treatment**

- Exclude contact with possible irritants
- Restore skin barrier with sitz baths, compresses
- After hydration, apply a bland emollient: White petrolatum, mineral oil, olive oil
- Short term mild-moderate potency steroids: TAC 0.1% BID x10-14 days (or clobetasol 0.05%) or Fluconazole 150 mg PO weekly
- Cold packs: gel packs, peas in a “zip-lock” bag
- Doxypin or hydroxyzine (10-75 mg PO) at 6 pm
- Replace local estrogen, if necessary
- If recurrent, refer for patch testing

**ISSVD 1987: Vulvar Dermatoses**

<table>
<thead>
<tr>
<th>Type</th>
<th>ISSVD Term</th>
<th>Old Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrophic</td>
<td>Lichen sclerosus</td>
<td>• Lichen sclerosus et atrophicus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Kraurosis vulvae</td>
</tr>
<tr>
<td>Hyper-plastic</td>
<td>Squamous cell hyperplasia</td>
<td>• Hyperplastic dystrophy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Neurodermatitis</td>
</tr>
<tr>
<td>Systemic</td>
<td>Other dermatoses</td>
<td>• Lichen planus</td>
</tr>
<tr>
<td>Premalignant</td>
<td>VIN</td>
<td>• Hyperplastic dystrophy/arytypia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bowen’s disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bowenoid papulosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vulvar CIS</td>
</tr>
</tbody>
</table>

**2006 ISSVD Classification of Vulvar Dermatoses**

- No consensus agreement on a system based upon clinical morphology, path physiology, or etiology
- Include only non-Neoplastic, non-infectious entities
- Agreed upon a microscopic morphology based system
- Rationale of ISSVD Committee
  - Clinical diagnosis → no classification needed
  - Unclear clinical diagnosis → seek biopsy diagnosis
  - Unclear biopsy diagnosis → seek clinic pathologic correlation

**2006 ISSVD Classification of Vulvar Dermatoses**

<table>
<thead>
<tr>
<th>Pathologic pattern</th>
<th>Clinical Correlates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spongiotic</td>
<td>Atopic dermatitis, allergic contact dermatitis, irritant contact dermatitis</td>
</tr>
<tr>
<td>Acanthotic</td>
<td>Psoriasis, LSC (primary or superimposed), (VIN)</td>
</tr>
<tr>
<td>Lichenoid</td>
<td>Lichen sclerosus, lichen planus</td>
</tr>
<tr>
<td>Dermal homogenization</td>
<td>Lichen sclerosus</td>
</tr>
<tr>
<td>Vesicobulbous</td>
<td>Pemphigoid, linear IgA disease</td>
</tr>
<tr>
<td>Acantholytic</td>
<td>Hailey-Hailey disease, Darier disease, papular genitocrural acantholysis</td>
</tr>
<tr>
<td>Granulomatous</td>
<td>Crohn disease</td>
</tr>
<tr>
<td>Vasculopathic</td>
<td>Aphthous ulcers, Behcet disease, plasma c. vulvitis</td>
</tr>
</tbody>
</table>
Lichen Sclerosus: Natural History

- Most common vulvar dermatosis
- Prevalence: 1.7% in a general GYN practice
- Cause: autoimmune condition
- Bimodal age distribution: older women and children, but may be present at any age
- Chronic, progressive, lifelong condition

Lichen Sclerosus: Findings

- Symptoms
  - Most commonly, itching
  - Often irritation, burning, dyspareunia, tearing
  - 58% of newly-diagnosed patients are asymptomatic
- Signs
  - Thin white “parchment paper” epithelium
  - Fissures, ulcers, bruises, or submucosal hemorrhage
  - Changes in vulvar architecture: loss of labia minora, fusion of labia, phimosis of clitoral hood
  - Depigmentation (white) or hyperpigmentation in “keyhole” distribution: vulva and anus
  - Introital stenosis

“Early” Lichen Sclerosus

- Hyperpigmentation due to scarring
- Loss of labia minora

Most common in Caucasian women
- Can affect non-vulvar areas
- Part (or all) of lesion can progress to VIN, differentiated type
- Predisposition to vulvar squamous cell carcinoma
  - 1-5% lifetime risk (vs. < 0.01% without LS)
  - LS in 30-40% women with vulvar squamous cancers
Lichen Sclerosus

- Thin white epithelium
- Fissures

“Late” Lichen Sclerosus

- Agglutination of clitoral hood
- Loss of labia minora
- Introital narrowing
- Parchment paper epithelium

68 year old woman with urinary obstruction

- Labial agglutination over urethral meatus

Lichen Sclerosus: Treatment

- Biopsy mandatory for diagnosis
- Preferred treatment
  - Clobetasol 0.05% ointment QD x4 weeks, then QOD x4 weeks, then twice-weekly for 4 weeks
  - Taper to med potency steroid (or clobetasol) 2-4 times per month for life
  - Explain “titration” regimen to patient, including management of flares and recurrent symptoms
  - 30 gm tube of ultrapotent steroid lasts 3-6 mo
  - Monitor every 3 months twice, then annually
Lichen Sclerosus: Treatment

- **Second line therapy**
  - Pimecrolimus, tacrolimus
  - Retinoids, potassium para-aminobenzoate
- Testosterone (and estrogen or progesterone) ointment or cream no longer recommended
- Explain chronicity and need for life-long treatment
- **Adjunctive therapy:** anti-pruritic therapy
  - Antihistamines, especially at bedtime
  - Doxepin, at bedtime or topically
  - If not effective: amitriptyline, desipramine PO
- Perineoplasty may help dyspareunia, fissuring

Lichen Simplex Chronicus = Squamous Cell Hyperplasia

- **Cause:** an irritant initiates a “scratch-itch” cycle
- **LSC classified as**
  - Primary (idiopathic)
  - Secondary (superimposed upon lichen sclerosus, candida vulvitis; vulvar contact dermatitis)
- **Presentation:** always itching; burning, pain, and tenderness
- Thickened leathery red (white if moisture) raised lesion
- In absence of atypia, no malignant potential
  - If atypia present, classified as VIN

Lichen Simplex Chronicus

L. Simplex Chronicus: Treatment

- Removal of irritants or allergens
- **Treatment**
  - Triamcinolone acetonide (TAC) 0.1% ointment BID x4-6 weeks, then QD
  - Other moderate strength steroid ointments
  - Intralesional TAC once every 3-6 months
- **Anti-pruritics**
  - Hydroxyzine (Atarax) 25-75 mg QHS
  - Doxepin 25-75 mg PO QHS
  - Doxepin 5% cream; start QD, work up
Lichen Sclerosus + LSC

- “Mixed dystrophy” deleted in 1987 ISSVD System
- 15% all vulvar dermatoses
- LS is irritant; scratching → LSC
- Consider: LS with plaque, VIN, squamous cell cancer of vulva
- Treatment
  - Clobetasol x12 weeks, then steroid maintenance
  - Stop the itch!!

Vulvar Intraepithelial Neoplasia (VIN): Prior to 2004

- Grading of VIN-1 through VIN-3, based upon degree of epithelial involvement
- The mnemonic of the 4 P’s
  - Papule formation: raised lesion (erosion also possible, but much less common)
  - Pruritic: itching is prominent
  - “Patriotic”: red, white, or blue (hyperpigmented)
  - Parakeratosis on microscopy

ISSVD 2004: Squamous VIN

- VIN 1 is not a cancer precursor; abandon use of term
  - Instead, use “condyloma” or “flat wart”
- Combine VIN-2 and VIN-3 into single “VIN” diagnosis
- Two distinct variants of VIN
  - VIN, usual type
    » Warty type
    » Basaloid type
    » Mixed warty-basaloid
  - VIN, differentiated (simplex) type

ISSVD 2004: VIN, Usual Type

- Includes (old) VIN -2 or -3
- Usually HPV-related (mainly type 16)
- More common in younger women (30s-40s)
- Often asymptomatic
- Lesions usually elevated and have a rough surface, although flat lesions can be seen
- Often multifocal (incl periurethral and perianal areas) and multicentric in 50%
- Strongly associated with cigarette smoking
- Regression is less likely and progression to invasion more likely with the basaloid type
VIN, Differentiated (Simplex) Type

- Includes (old) VIN 3 only
- Usually in older women with LS, LSC, or LP
- Not HPV related
- Less common than usual type
- Patients usually are symptomatic, with a long history of pruritus and burning
- Findings
  - Red, pink, or white papule; rough or eroded surfaces
  - A persistent, non-healing ulcer
- More likely to progress to SCC of vulva than warty-basaloid type

VIN, usual (basaloid) type

FIGURE 3. Vulvar intraepithelial neoplasia, usual type, with white-gray color changes and irregular borders.

Image courtesy of Natalia A. Saunders, MD.
Vulvar Intraepithelial Neoplasia

VIN: warty-basaloid type

Vulvar Intraepithelial Neoplasia

Hyperpigmented VIN

Vulvar Intraepithelial Neoplasia

- Precursor to vulvar cancer, but low “hit rate”
  - Greater risk of invasion if immunocompromised (steroids, HIV), >40 years old, previous lower genital tract neoplasia
- Treatment
  - Wide local excision (few lesions), laser ablation
  - Topical agents: 5FU cream, imiquimod
  - Skinning or simple vulvectomy
- Recurrence is common (48% at 15 years)
  - Smoking cessation may reduce recurrence rate

Treatment

Wide local excision (few lesions), laser ablation
- Topical agents: 5FU cream, imiquimod
- Skinning or simple vulvectomy

Recurrence is common (48% at 15 years)
- Smoking cessation may reduce recurrence rate
**Indications for Vulvar Biopsy**

- Papular or exophytic lesions, except obvious condylomata
- Thickened lesions (biopsy thickest region) to differentiate VIN vs. LSC
- Hyperpigmented lesions (biopsy darkest area), unless obvious nevus or lentigo
- Ulcerative lesions (biopsy at edge), unless obvious herpes, syphilis or chancroid
- Lesions that do not respond or worsen during treatment
- *In summary*: biopsy whenever diagnosis is uncertain

**Tips for Vulvar Biopsies**

- Where to biopsy
  - Homogeneous: one biopsy in center of lesion
  - Heterogeneous: biopsy each different lesions
- Skin local anesthesia
  - Most lesions will require ½ cc. lidocaine or less
  - Epinephrine will delay onset, but longer duration
  - Use smallest, sharpest needle: *insulin syringe*
  - Inject anesthetic s-l-o-w-l-y
- Alternative: 4% liposomal lidocaine (30 minutes) or EMLA (60 minutes) pre-op

- Stretch skin; twist 3 or 4 mm Keyes punch back-and-forth until it “gives” into fat layer

- Lift circle with forceps or needle; snip base
- Hemostasis with AgNO₃ stick or Monsel’s solution
  - Silver nitrate will *not* cause a tattoo
  - Suturing the vulva is almost *never* necessary
- Separate pathology container for each area biopsied
**Urinary Incontinence (UI)**

- "**Involuntary** loss of urine that is **objectively** demonstrable and is a social or hygienic **problem**"
- 25% (under 60) to 35-40% (over 50) adult women
- Chronic UI
  - Social seclusion
  - Increased risk of falls (26%), fracture (34%
  - Three times more nursing home admits
- $3,565 per individual with severe incontinence
  - Cost for women was 3x higher than for men
  - Twice as high for women older than 65 years compared with women younger than 65 years
  - **More than all cancer care for women**

**Urinary Stress Incontinence (USI)**

- Pressure inside the bladder exceeds urethral pressure
- Due to relaxation of the muscles and ligaments in the pelvis, owing to childbirth and aging
- Onset mainly in women younger than 60 years
- Losses of small amounts of urine with activities that increased intra-abdominal pressure
  - Coughing, sneezing, running, laughing
  - Intercourse
- **No warning of leakage**

**Urinary Urge Incontinence (UUI)**

- AKA: Detrusor overactivity, detrusor instability, uninhibited bladder, or **overactive bladder**
- Bladder muscle contracts during the filling of the bladder, while attempting to avoid urination
- Urge incontinence is more common in older adults
- Creates a sensation of urinary urgency and frequency **before** urine is lost
- Causes
  - Infection, menopause, drugs, multiple sclerosis
  - Idiopathic in most cases

**Less Common Causes of UI**

- **Mixed Incontinence**
  - Stress and urge incontinence at the same time
- **Anatomic Conditions**
  - Tract from bladder into vagina (fistula)
- **Overflow Incontinence**
  - Bladder overflows because it can't be fully emptied
  - Result of bladder blockage, injury, nerve damage (diabetes, MS)
  - Reduced stream, dribbling, unsuccessful voiding
Medications Causing UI

- Urge UI
  - Diuretics, caffeine, alcohol
- Stress UI
  - ACE inhibitors (cough)
  - a-adrenergic blockers (decreased urethral tone)
- Overflow incontinence
  - Anticholinergics
  - Narcotics
  - Antidepressants
  - a-adrenergic agonists
  - beta-blockers
  - Calcium channel blockers

3 Incontinence Questions (3IQ)

1. During the last 3 months, have you leaked urine, even a small amount?
2. If yes, do you have...
   - Stress UI: physical activity, coughing, sneezing, lifting, or exercise
   - Urge UI: urge, feeling need to empty but could not get to the toilet fast enough
   - Other: don’t know
3. Which type of UI do you have most often: stress, urge, mixed (equal), other

Initial Visit

- Simple Diagnosis - 3 IQ, UA (*not urine culture*)
- Reasonable expectations
  - Ask the patient what she wants!
- Consider a diary
  - Time/toilet void/leak accident/fluid intake
  - Fluid adjustment
- *Educate & Empower!*
  - Patient information
  - Bedside commode (falls & fracture prevention)

Evaluation of UI: Urodynamics

- When are urodynamics necessary?
  - When medical treatments fail
  - Mixed incontinence
  - Women who have failed UI surgery
  - Before first UI surgery (?)...depends upon the surgeon!
- What is evaluated?
  - Cystometrogram: check pressure bladder at different volumes of air or water
  - Urethral pressure profile: bladder neck closure pressure, functional length, response to cough
  - Uroflowmetry: flow rate to detect blockage
  - Electromyogram: activity of the pelvic muscles
Treatment of Urinary Incontinence

- Depends upon type of incontinence
- Treatment categories (alone or in combination)
  - Behavioral: bladder training, timed voiding
  - Pelvic floor exercises: Kegels, biofeedback
  - Pharmacologic (drugs)
  - Mechanical: pessary, urethral occlusion devices
  - Surgical
- A correct diagnosis is required for successful treatment!

Hints from Heloise (Jeanette Brown, MD)

- Fluid Management
  - Drink for thirst…not a marathon drinker!
  - Avoid caffeine
- Pelvic Floor Muscle Exercises
  - Squeeze your bottom like you are trying to hold back gas (should feel around your vagina as well)
  - Hold for 2 seconds and relax for 2 seconds (increase each by 1 second each week until 10 seconds)
- Bladder Control Strategies
  - Urge control: “freeze and squeeze”
  - Stress control: “squeeze before you sneeze” or lift

UI: Behavioral Therapy

- Bladder Training
  - Teaches an individual to resist the urge to void and gradually expand the intervals between voiding
  - Effective for urge and overflow incontinence
- Timed Voiding
  - Using biofeedback, the patient charts voiding and leaking
  - From the patterns that appear in her chart, she can plan to empty her bladder before she would otherwise leak
- Toileting Assistance
  - Scheduled toileting, habit training schedules, and prompted voiding to empty the bladder regularly

UI: Pelvic Floor Exercises

- Kegel exercises
  - “Clench the muscles you would use to stop the flow of urine. Hold the squeeze for 10 seconds, then relax”
  - Performed 30-80 times daily for at least 8 weeks.
  - Particularly helpful for younger women
- Biofeedback
  - Instrument placed in vagina signals intensity of muscular squeeze
  - Goal is for users to gain awareness and control of their pelvic muscles
  - Used in conjunction with Kegel exercises
**Urinary Tract Health & HT**

- Local ET may benefit some women with urge incontinence who have vaginal atrophy
- Unclear if ET by any route is effective for overactive bladder
- Controversial if local ET can improve stress incontinence (systemic ET may worsen or provoke it)
- Local vaginal ET may reduce risk of recurrent UTI
- No HT product approved for urinary health in US/Canada


**Antispasmodics for UUI/Overactive Bladder**

<table>
<thead>
<tr>
<th>Short acting</th>
<th>Extended release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic oxybutynin (<em>Ditropan</em>)</td>
<td>Oxybutynin ER (<em>Ditropan XL</em>)</td>
</tr>
<tr>
<td>Oxybutynin patch (Oxytrol)</td>
<td>Oxybutynin gel (<em>Gelnique</em>)</td>
</tr>
<tr>
<td>Tolterodine (<em>Detrol</em>)</td>
<td>Tolterodine extended (<em>Detrol LA</em>)</td>
</tr>
<tr>
<td>Trospium chloride (<em>Sanctura</em>)</td>
<td>Darifenacin (<em>Enablex</em>)</td>
</tr>
<tr>
<td></td>
<td>Solifenacin succinate (<em>VESIcare</em>)</td>
</tr>
<tr>
<td></td>
<td>Festoterodine (<em>Toviaz</em>)</td>
</tr>
</tbody>
</table>

Side effects: dry mouth, constipation, drowsiness, blurred vision, dizziness

Contraindications: narrow angle glaucoma, hepatic/renal disease

**USI: Pessary with “Incontinence Knob”**

- Bulking Injections
  - Contigen, Durasphere
- Needle bladder neck suspension procedures
  - Vaginal approach; suture tethered to abdominal wall
  - Tension-free vaginal tape (TVT)
  - Older procedures: Stamey, Raz, and Pereyra
- Abdominal sling operations
  - Abdominal incision or laparoscopy
  - Burch, Marshall-Marchetti procedure
- Anterior colporrhaphy (“anterior repair”)
  - Vaginal surgery to treat cystocele (but not USI)
  - High failure rate after 5 or more years

**Surgical Therapies for USI**
We Are Here To Help

Incontinence is a common problem. Over thirteen million Americans have some form of incontinence. Nearly 85% of these people are women.

The UCSF Women’s Continence Center offers a comprehensive array of clinical services for women with incontinence, urethral or bladder dysfunction, and pelvic support problems.

www.ucsf.edu/wcc

Inside every older person is a younger one.... wondering what the hell happened