Classification of FSD: DSM-IV-TR

- Defined by onset
  - Lifelong: present since onset of sexual functioning
  - Acquired: develops after period of "normal" functioning
- Defined by context
  - Generalized: not limited to certain types of stimulation, situations, or partners
  - Situational: limited to certain types of stimulation, situations or partners
- Distress & persistence
  - Psychogenic, organic, mixed, unknown etiology


Cancer-Related Complaints

- Anatomical sequela from surgical intervention
  - Therapeutic
  - Prophylactic
- Sequela from adjunctive therapy
  - Chemotherapy
  - Radiation changes
- Maintenance therapies
  - Hormonal manipulation
  - Immune modulators
  - Cytostatic medications

Chemotherapy and Sexual Functioning

- Premature ovarian failure
- Amenorrhea
- Menopausal syndrome
- Bone marrow suppression
- Mucus membrane irritation
- Neurological changes
- Vaginal mucosal erythrodysesthesia
- Alopecia
  - Private and public
  - Eyelashes
  - Weight changes
  - Nausea/vomiting
  - Diarrhea/Stomatitis
  - Fatigue

Effect of Treatment: Radiation

- Mammary data is needed
- Loss of normal sensation
- Discoloration
- Skin thickening and Fibrosis
- Lymphedema exacerbation
  - Pain
  - Discomfort
  - Parasthesias
  - Skin sensitivity
- Range of motion difficulties
- Alopecia (private and public)
- Local effects skin changes
- Partner reaction
  - Am / radioactive
Post Treatment

- Cytostatic Medications
  - Tamoxifen and Raloxifene
  - Aromatase Inhibitors
- Anti depressants
- Pain medications

Breast Cancer and Sexual Function

50% to 90% of breast cancer survivors complain of some form of FSD
- "Yes I am thankful to be alive, but I am dead down there"
- "Breast cancer treatment contributed to the deterioration of my excellent marriage"
- "They never told me I would feel like this...."

- Asian and African American women maybe less communicative with respect to sexuality—more prone to FSD
- Most common FSD: vaginal dryness with painful intercourse
- Changes in self-esteem are very troublesome
- Prophylactic surgeries adversely affect sexual functioning
- Topical estrogen may not be associated with increased risk of breast cancer recurrence

Dew I & al. Climacteric. 2003 6:45-52

Lung Cancer

- Dyspnea is the major obstacle with lung disease and most studies reveal that this does not pose a major problem for sexual intercourse except for those with moderate to severe disease
- Schedule intimacy when best breathing time. Early morning or early afternoon after daily bronchial hygiene is completed is often best.
- Avoid intimacy after heavy meal or alcohol which can promote fatigue
- Use bronchodilators before lovemaking and use oxygen therapy if prescribed

Colorectal Cancer

- Most women complaint of decreased desire, vaginal dryness with pain—similar to problems after breast, ovarian or bladder cancer.
- Most studies do not support the fact that women with ostomies have more sexual complaints
- Chronic diarrhea, fecal and flatus incontinence as well as problems with urination maybe a complication of surgery
- Many may need to self catheterize
- Abdominal perineal resection (APR) for tumors in the lower third of the rectum are more problematic as rectum, anus and often the uterus and ovaries are removed—vaginal reconstruction maybe be necessary.

Hodgkin's Lymphoma

- Hodgkin survivors were found to have elevated levels of psychological distress and sexual problems when compared to controls (32)
- When asked to consider the effect that cancer had on their sex lives:
  - 37% reported one or more problem
  - 31% decreased satisfaction
  - 31% decrease interest
  - 18% decreased activity
- Infertility
  - 26% were tested and were told they were infertile
  - Additional 27% thought they were infertile
- Risk of second malignancy, relapse, and infertility contribute to problems in adjustment
- Breast Cancer as a secondary malignancy is a concern

Kornblith et al. Cancer 1992;70:2214

- Women with Bone marrow transplants or stem cell rescue for their cancers tend to have more sexual problems than those with less severe treatments.
- High dose chemotherapy often induces menopause except in youngest girls and some teens—some resume menses
- Total body irradiation can permanently affect the ovaries
- Graft versus Host Disease (GVH)
  - 25% of women with moderate to severe GVH have uterine and vaginal inflammation leading to scarring and increased pain on penetration. Post coital bleeding is common
  - Treat early
    - estrogen creams
    - immune system modulators (cytopoint) to prevent the reaction
    - Aggressive Dilator program

Kornblith et al. Cancer 1992;70:2214
Palliative Care

- Limited data on death and sexual function or intimacy
- Death and sexuality are opposites
- Does not preclude need for intimacy and touching
- Manage symptoms
- Encourage closeness

Sexuality and the Single Survivor

- 50%+ of marriages end in divorce and separation
- Reentering the dating scene can be scary
- How to disclose sensitive information concerning mortality and morbidity
- Concerns regarding rejection
- Fertility concerns
- STD prevention
- Safe sexual education

Focus on rehabilitation
...not treatment

The latter implies the possibility of complete “recovery” which may not be possible with many debilitating conditions

The New Normal

Treatment Pathways:
Sexual Complaints

- Treatment of systemic illness
  – Undiagnosed chronic medical illnesses:
    - Hypertension
    - Diabetes
    - Thyroid dysfunction
  – Identification of medications
    – Many patients are on poly-pharmacy
    – Screen for unnecessary SSRI
    – Sexual Pharmacology

Behavior Modification

Behavior Modification

Lifestyle Modification
- Stress management
- Time management
- Pain Management
  – Physical therapy
  – Lymphedema Programs

Lifestyle Factors and Sexual Activity

Increased

- Physically active women
- Social support
- Healthy diet

Decreased

- Sleep difficulties
- Inactivity
- Depression
- Obesity

Mediterranean Diet

- Mediterranean diet high on the fruits, vegetables, whole grains, legumes, nuts (especially walnuts) and olive oil, and very low on the red meat, refined grains, and processed foods resulted in higher on standardized indices of sexual function.

Esposito et al. JSM 2007

Medications and Sexuality

- Andrnergic function
- CNS depression
- Anticholinergics
- Antihistamines
- Antihypertensives
- Antipsychotics
- Barbituates
- Histamine H2-receptor blockers
- Promotility agents
- Barbiturates
- Benzodiazepines
- Selective serotonin reuptake inhibitors
- Lithium
- TRicyclic antidepressants
- Indomethacin (Indocin)
- Ketoconazole (Nizoral)
- Phenytoin sodium (Dilantin)

Structured Sexual Tasks

- Sensate focusing
- Guided Imagery
- Relaxation exercise
- Fantasy exploration
- Skilled exercises
- Tantra Sexual Awakening

Sexual Devices/Accesories

- Self stimulator/vibrators
- Dilator therapy
- Sexy lingere
- Attachable nipples

Focus on Novel Activities

- Bring vacation time home again
- Do something novel and exciting
  - Dance in the living room
  - Ride a roller coaster
- Boost adrenaline and increases oxytocin hormones - the love hormone

Mindfulness

“the miracle by which we master and restore ourselves... it is the miracle which can call back in a flash our dispersed mind and restore it to wholeness so that we can live each minute of life”

- Thich Nhat Hahn, 1976

Acupuncture

- Acupuncture and herbal medicine have been incorporated for over 4000 years into treatment of all sexual complaints
- Multiple studies demonstrate that when acupuncture needles are placed in key strategic locations many processes are activated
  - Hormonal release
  - Nervous system regulation
  - Increased blood flow
- Acupuncture has a profound calming effect on mental and emotional states thus enhancing well being and sexual desire
Available Moisturizers

<table>
<thead>
<tr>
<th>Product</th>
<th>Ingredients</th>
<th>Use</th>
<th>Price</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replens</td>
<td>Polycarboxylate (acrylic acid)</td>
<td>Every 3 days</td>
<td>$17.5/14 app</td>
<td>Yes</td>
</tr>
<tr>
<td>Me again</td>
<td>Hyaluronic acid (polysaccharides)</td>
<td>7 days &gt; 2/wk</td>
<td>$18/8 app</td>
<td>HA-yes</td>
</tr>
<tr>
<td>KY Liquidbeads (ovules)</td>
<td>Dimethicone, (water, rubber)</td>
<td>?</td>
<td>$18/8 app</td>
<td>No</td>
</tr>
<tr>
<td>KY long lasting</td>
<td>Various polymers</td>
<td>?</td>
<td>$16/6 app</td>
<td>No</td>
</tr>
<tr>
<td>Emerita personal moisturizer</td>
<td>Alanic acid, carnauba wax, glycolic acid, allantoin</td>
<td>As needed</td>
<td>$16/4 oz</td>
<td>No</td>
</tr>
<tr>
<td>Moist Again</td>
<td>Carbomer, aloe vera paste, allantoin</td>
<td>As needed</td>
<td>$7/4 oz</td>
<td>No</td>
</tr>
<tr>
<td>Hyalofemme</td>
<td>Hyaluronic acid</td>
<td>7 days &gt; 2/wk</td>
<td>$17/30gram</td>
<td>HA-yes</td>
</tr>
<tr>
<td>Pro-cure</td>
<td>Hyaluronic acid, vitamin A, vitamin E, vitamin B, vitamin C</td>
<td>As needed</td>
<td>$20/9 app</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Current Overview of the Management of Urogenital Atrophy in Women with Breast Cancer

Table 1. Estradiol Preparations and Maximum Annual Delivered Dose

<table>
<thead>
<tr>
<th>Product name</th>
<th>Route of administration</th>
<th>Typical regimen</th>
<th>Duration of treatment</th>
<th>Type of delivery</th>
<th>Maximal annual delivered dose mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol gel</td>
<td>Transdermal patch</td>
<td>17β-estradiol 50 mcg/h</td>
<td>24 hours/day</td>
<td>Transdermal patch</td>
<td>1800 mg/week</td>
</tr>
<tr>
<td>Estradiol cream</td>
<td>Topical</td>
<td>1% or 2%</td>
<td>Applied twice/day</td>
<td>Topical</td>
<td>30 mg/day</td>
</tr>
<tr>
<td>Estradiol tablet</td>
<td>Oral</td>
<td>0.625-2 mg</td>
<td>Twice/day</td>
<td>Oral</td>
<td>30 mg/day</td>
</tr>
</tbody>
</table>

Dew et al: Conclusions

- Cohort: N=1472
  - HRT: 342 (23%)
  - Local vaginal estrogens: 62 (4.7%)
- Diagnosis to treatment: 5.25 years (0-20 years)
- Median time of use: 1 year
- Median follow-up: 5.5 years
- Deaths: 11.5% entire population
- 6% in local vaginal estrogen users
- Study was underpowered for definitive data outcome
- Topical vaginal estrogen usage appears not to increase risk of recurrent breast cancer


Local Estrogen Therapy and Risk of Breast Cancer Recurrence among Hormone Treated Patients: A Nested Case Control Study

Kendall M., Dowsett et al.
Caution: Vaginal estradiol appears to be contraindicated in postmenopausal women on adjunctive aromatase inhibitors

UK study of 7 women on AI.
Serum E2, FSH, LH measured at baseline the 2, 4, 7-10 and 12 weeks later.
Specific assay for postmenopausal LOW levels
Serum levels rose from baseline of <5pmol/l consistent with AI therapy to a mean of 72 pmol/l at 2 weeks, by week 4 this had decreased to <35 pmol/l in the majority of women
Conclusion: Vagifem significantly raises systemic estradiol levels at least in the short term. This may reverse the estradiol suppression achieved by AI in women with Breast Cancer and is contraindicated.

Available Moisturizers

<table>
<thead>
<tr>
<th>Product</th>
<th>Ingredients</th>
<th>Use</th>
<th>Price</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replens</td>
<td>Polycarboxylate (acrylic acid)</td>
<td>Every 3 days</td>
<td>$17.5/14 app</td>
<td>Yes</td>
</tr>
<tr>
<td>Me again</td>
<td>Hyaluronic acid (polysaccharides)</td>
<td>7 days &gt; 2/wk</td>
<td>$18/8 app</td>
<td>HA-yes</td>
</tr>
<tr>
<td>KY Liquidbeads (ovules)</td>
<td>Dimethicone, (water, rubber)</td>
<td>?</td>
<td>$18/8 app</td>
<td>No</td>
</tr>
<tr>
<td>KY long lasting</td>
<td>Various polymers</td>
<td>?</td>
<td>$16/6 app</td>
<td>No</td>
</tr>
<tr>
<td>Emerita personal moisturizer</td>
<td>Alanic acid, carnauba wax, glycolic acid, allantoin</td>
<td>As needed</td>
<td>$16/4 oz</td>
<td>No</td>
</tr>
<tr>
<td>Moist Again</td>
<td>Carbomer, aloe vera paste, allantoin</td>
<td>As needed</td>
<td>$7/4 oz</td>
<td>No</td>
</tr>
<tr>
<td>Hyalofemme</td>
<td>Hyaluronic acid</td>
<td>7 days &gt; 2/wk</td>
<td>$17/30gram</td>
<td>HA-yes</td>
</tr>
<tr>
<td>Pro-cure</td>
<td>Hyaluronic acid, vitamin A, vitamin E, vitamin B, vitamin C</td>
<td>As needed</td>
<td>$20/9 app</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Current Overview of the Management of Urogenital Atrophy in Women with Breast Cancer

Table 1. Estradiol Preparations and Maximum Annual Delivered Dose

<table>
<thead>
<tr>
<th>Product name</th>
<th>Route of administration</th>
<th>Typical regimen</th>
<th>Duration of treatment</th>
<th>Type of delivery</th>
<th>Maximal annual delivered dose mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol gel</td>
<td>Transdermal patch</td>
<td>17β-estradiol 50 mcg/h</td>
<td>24 hours/day</td>
<td>Transdermal patch</td>
<td>1800 mg/week</td>
</tr>
<tr>
<td>Estradiol cream</td>
<td>Topical</td>
<td>1% or 2%</td>
<td>Applied twice/day</td>
<td>Topical</td>
<td>30 mg/day</td>
</tr>
<tr>
<td>Estradiol tablet</td>
<td>Oral</td>
<td>0.625-2 mg</td>
<td>Twice/day</td>
<td>Oral</td>
<td>30 mg/day</td>
</tr>
</tbody>
</table>

Dew et al: Conclusions

- Cohort: N=1472
  - HRT: 342 (23%)
  - Local vaginal estrogens: 62 (4.7%)
- Diagnosis to treatment: 5.25 years (0-20 years)
- Median time of use: 1 year
- Median follow-up: 5.5 years
- Deaths: 11.5% entire population
- 6% in local vaginal estrogen users
- Study was underpowered for definitive data outcome
- Topical vaginal estrogen usage appears not to increase risk of recurrent breast cancer


Local Estrogen Therapy and Risk of Breast Cancer Recurrence among Hormone Treated Patients: A Nested Case Control Study

Kendall M., Dowsett et al.
Caution: Vaginal estradiol appears to be contraindicated in postmenopausal women on adjunctive aromatase inhibitors

UK study of 7 women on AI.
Serum E2, FSH, LH measured at baseline the 2, 4, 7-10 and 12 weeks later.
Specific assay for postmenopausal LOW levels
Serum levels rose from baseline of <5pmol/l consistent with AI therapy to a mean of 72 pmol/l at 2 weeks, by week 4 this had decreased to <35 pmol/l in the majority of women
Conclusion: Vagifem significantly raises systemic estradiol levels at least in the short term. This may reverse the estradiol suppression achieved by AI in women with Breast Cancer and is contraindicated.
Topical Testosterone for Breast Cancer Patients with Vaginal Atrophy Related to Aromatase Inhibitors: A Phase III Study


Providence, Rhode Island, USA.

Abstract Purpose. Controversy exists about whether vaginal estrogens interfere with the efficacy of aromatase inhibitors (AI) in breast cancer patients. With the greater incidence of vaginal atrophy in patients on AIs, a safe and effective nonestrogen therapy is necessary. We hypothesized that topical testosterone cream could safely treat vaginal atrophy in women on AIs.

Methods. Twenty-one postmenopausal breast cancer patients on AIs with symptoms of vaginal atrophy were treated with testosterone cream applied to the vaginal epithelium daily for 28 days. Ten women received a dose of 300 g p. o. 10 received 150 g, and one was not evaluable. Estradiol, testosterone, estrone, levels, symptoms of vaginal atrophy, and gynecologic examinations with pH and vaginal cytology were compared before and after therapy.

Results. Estradiol levels remained suppressed after treatment to < 2 pg/mL. When total symptom scores improved from 2.9 to 0.7 after treatment (p < .001) and remained improved 1 month thereafter (p < .001) and vaginal dryness (p < .001) improved. The median vaginal pH decreased from 5.5 to 3.3 (p < .001). The median maturation index rose from 2% to 46% (p < .001). Although improvement in total symptom score was similar for both doses (< 3.5 for 300 g vs. 0.8 for 150 g p. g. p. < .001), only the 300 g dose was associated with improved pH and maturation values.

Conclusions. A 4-week course of vaginal testosterone was associated with improved signs and symptoms of vaginal atrophy related to AI therapy without increasing estradiol or testosterone levels. Longer-term data are warranted.

Low Dose Vaginal Estrogen Treatment

- Breast cancer survivors may possibly use minimally absorbed local vaginal estrogens products like the ring (Estring®) and tablets (Vagifem®) and Conjugated Equine Estrogen (Premarin Vaginal Cream®) * Estradiol cream (estrace®)
- with very little systemic escape. OFF LABEL!
- Surgical oncologists, medical oncologists, gynecologists and patients will often disagree about safety
- NAMS and OB/GYN advocate personalized and individualized plans
- Formulate management plan
  - Monitor estradiol levels
  - Evaluate abnormal bleeding
  - Try alternatives first?
  - Know your personal comfort zone

Important New Studies

- **Goldfrank et al (SABC 2012) n=26**
  - BC Stage 1-3 on AI: 15mg 17β-estradiol
  - Median change in estradiol from baseline to wk 12 was 0.2 with a range from -3.0 to 14.6
  - Only 5/26 (19%) had sporadic elevation in E2 outside menopausal range
  - Clinical significance of the systemic E2 absorption is unknown and warrants further study
- Impression:
  - Elevations in E2 are rare and brief, data does not support the routine monitoring of E2 levels
  - Improvements in sexual function is not associated with an elevation of E2 levels

Dew et al: Conclusions

- Cohort: N=1472
  - HRT: 342 (23%)
  - Local vaginal estrogens: 69 (4.7%)
  - Tablets, cream
  - Diagnosis to treatment: 5.25 years (0-20 years)
  - Median time of use: 1 year
  - Median follow-up: 5.5 years
  - Deaths: 11.5% entire population
  - 6% in local vaginal estrogen users

- Study was underpowered for definitive data outcomes
  - Topical vaginal estrogen usage appears not to increase risk of recurrent breast cancer

Local Estrogen Therapy and Risk of Breast Cancer Recurrence among Hormone Treated Patients: A Nested Case Control Study

Wills et al (1 of Onc. Pract 2012 8:585-588)

- Local estrogen therapy was associated with improved signs and symptoms of vaginal atrophy related to AI therapy without increasing estradiol or testosterone levels. Longer-term data are warranted.
Ospemifene (Osphena®)

- Non hormonal estrogen agonist/antagonist that targets the vaginal epithelium
- 2010 RCT Stage III: SERM ospemifene – Quatrix Inc/Shionogi Inc
- 827 women randomized either 30, 60 mg or placebo for 12 weeks
- 60 mg was shown to be effective, well tolerated for vaginal dryness and dyspareunia
- No proliferative effect on endometrium
- Side effect: 8% hot flashes
  - 0.7% severe in 60mg group
  - one participant (0.4%) in the 60 mg group discontinued because of hot flashes.
- Interesting: Ospemifene and 4-hydroxyospemifene effectively prevent and treat breast cancer in Mtag.TG Transgenic Mouse

Emerging Sexual Pharmacology

- Intravaginal Testosterone
- Intravaginal DHEA/ Prasterone/Vaginorm ®
- Intravaginal Tamoxifen
- Intravaginal Estriol
- Intravaginal Oxytocin / Vaginocin
- Intravaginal Bovine Colostrum
- Tissue Selective Estrogen Complex (SERM/CEE)
- Intranasal Testosterone
- Flibanserin
- Bremelanotide
- Topical Alprostadil ( Femprox ®)
- Lybrido and Lybridos

Even one comment can make a difference

- While handing out a pamphlet or educational brochure, you may want to say....

  “Many women speak of concerns regarding intimacy and sexuality matters, so I’d like to give you a few resources and a couple of names, should you wish to speak with a local expert....”

The Balance of Cancer

Positive Aspects

- Better communication
- Increased mutual understanding
- More careful sexual contact
- More intense feeling

Negative Aspects

- Pain
- Fatigue
- Less Lubrication
- Changed Orgasm
- Anxiety concerning recurrence

Schultz et Al / Sex and Marital Therapy 24(5):121-128,2003

Education in Sexual Medicine

- Myths and Mysteries
  - Locker room syndrome
  - Self esteem issues
  - Size issues
- Anatomy
- G-spot
- Organs
  - Vaginal Vs Clitoral
- Alternative forms of sexual positioning and expression
- Sexual devices/accessories
- Bibliotherapy
- Books/ Video/ DVD
- Safe non-spam websites
- Internet links
- Sexual Health Organizations

WISH

Your Voice. Your WISH.

www.cmesh.org
www.yourvoiceyourwish.com