MULTIPLE SCLEROSIS AND SEXUAL HEALTH

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Disclosures

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- Professional Education Services Group staff have no financial interest or relationships to disclose
Learning Objectives

- Appreciate the impact of sexual dysfunction on individuals with MS
- Learn about the multifactorial nature of sexual dysfunction
- Understand the multifaceted treatment approaches to sexual dysfunction
Obtaining CME Credit

- If you would like to receive CME credit for this activity, please visit www.pesgce.com/PVAsummit2011
- This information can also be found in the Summit 2011 Program on page 8
Sexual Dysfunction in MS

- **Frequency**
  - M: 78 – 91%
  - F: 45 – 72%

- **Causes**
  - Brain, Cord, Drugs, Comorbidities
  - Insomnia, Mood Disorders, Stress
  - Partner Relations, Pain

- **Features**
  - Erections/Lubrication, Ejaculation, Orgasm, Libido

- **Players**
  - Patient, Partner, Nurses, Physicians, Psychologists, PT/OT
2002 WHO Definition of Sexual Health

- State of physical, emotional, mental & social well-being

- In relation to sexuality, it is not merely the absence of disease, dysfunction, or infirmity

- Sexual health requires a positive & respectful approach to sexuality & sexual relationships, as well as the possibility of having pleasurable & safe sexual experiences, free of coercion, discrimination, and violence
# Sexual Dysfunction

**Sexual Health**  Part of General Health & Well-Being

**Sexual Issues**  can often be treated & must be treated

**Parallel linked**  Emotions, Libido, Erection, Lubrication, Components  Ejaculation, Orgasm

**Intimacy**  not just about Sex

**Libido**  sensitive to Mood, Stress, Depression, Drugs

**Orgasm**  Learned Reflex in which Brain interprets multiple separate Events as pleasurable

**Life before**  influences Life after Illness, e.g. Body Image, ability to express Emotions
Common Concerns

- Urinary & Bowel Accidents
- Not satisfying a Partner
- Being considered unattractive
- Inadequate personal Satisfaction
- Preparation too much Trouble
- Hurting oneself
  - Pain, Spasms
  - Mucosal & Skin Breakdown
- Loss of Interest
- Disliking Method of Satisfaction
- Partner as Lover & Caregiver
- Where do you have Sex in a NH?
Male Sexual Dysfunction

- Hypo & Hyper-libidinism
- Fatigue
- Spasticity & Spasms
- Erectile Dysfunction
- Ejaculatory Disorders
- Premature Ejaculation
- Anorgasmia
Female Sexual Dysfunction

- Hypo & Hyper-libidinism
- Fatigue
- Spasticity & Spasms
- Hypoactive Sexual Desire Disorder
- Sexual Aversion Disorder
- Sexual Arousal Disorder
- Orgasmic Disorder
- Sexual Pain Disorders
  - Dyspareunia
  - Vulvar Vestibulitis
  - Vulvodynia
  - Vaginismus
Causes of Sexual Dysfunction

- **Advancing Age**
- **Medical Diseases**
  - Damage to Nerves, Veins, Arteries, Liver, Kidney, Heart; Diabetes, Stroke, MS, TBI
  - Stress, Anxiety, Depression
  - Smokers, age 40: 4x as likely to have ED
- **Sleep Disorders**
- **Degenerative Joint & Disk Disorders**
- **Hormonal Causes**
  - ↓ Estrodiol: ↓ genital Sensation & Blood Flow
  - ↓ Estrogen: ↓ vaginal Mucosa & Wall Muscle
    - ↓ clitoral NO Synthase
  - ↓ Testosterone: ↓ Libido, Arousal, Sensation, Orgasm
Causes of Sexual Dysfunction

- Psychological & Relational Issues
  - Chronic Illness can lead to Depression, Anger & Insecurity, an obvious impediment to social & intimate Relations.
  - Good Communication & often Counseling are crucial.

- Drugs, Medications
  - Abuse: EtOH & other
  - Hormones: Prostate Enlargement, Cancer
  - HTN/Heart: Diuretics, Digoxin, Ca^{2+}, α & β Channel Blockers
  - Drugs: Anxiety, Depression, Hallucinations, Seizures
  - Drugs: nasal Congestion, Cholesterol, Ulcers, Pain
Male Anatomy

- Bladder
- Urogenital diaphragm
- Corpus spongiosum
- Head of epididymis
- Testis
- Mediastinum of testis
- Ductus deferens, tail of epididymis
Male Anatomy

2 Chambers, Corpora Cavernosa: This spongy tissue contains smooth muscle, fibrous material, spaces, veins & arteries. A tough membrane, Tunica Albuginea, surrounds them. The Corpus Spongiosum at the underside of the penis surrounds the urethra.
Female Anatomy

- Fallopian tube
- Ovary
- Colon
- Uterus
- Fornix
- Cervix
- Rectum
- Vagina
- Anus
- Bladder
- Pubic bone
- G-Spot
- Clitoris
- Urethra
- Vaginal opening

(C)2001 THE SEX PROJECT
Sexual Function – Innervation

Sympathetic

Spinal Cord

Eye

Oral/Nasal Mucosa

Salivary Glands

Heart

Trachea/Bronchi

Stomach

Liver

Abdominal blood vessels

Pancreas

Adrenal medulla

Small intestine

Large intestine

Kidney

Bladder and Genitals

Parasympathetic

BRAIN

HEART

FULL BLADDER

FE CAL IMPACTION

Diaphragm
Sexual Physiology

Interaction: Hormonal, vascular, neural (Brain+Cord), neurochemical Functions

Components
- Begins with mental or sensory Stimulation
  - Psychogenic (Smells, Sounds, Sights, Thoughts), sympathetic: Brain → T10 – L2 → hypogastric/pudendal N. Reflex, parasympathetic, involuntary, asexual:
    - Stimulation of genital & other erogenous Areas, Bladder activate pelvic/pudendal N. → S2 – 4 Fibers.
    - (Genital–Brain Pathway via CN X)

Result
- Increased Heart & respiratory Rate & Blood Pressure
  - 8x ↑ Blood into Corpora Cavernosa, veinous Compression:
    → Tumescence & Erection
  - Emission: T10–L2 Stimulation of Vas deferens & seminal Vessels
  - Ejaculation: S2–4 Contraction of pelvic Floor Muscles
- Vaginal Vasocongestion, Lubrication, labial+clitoral Enlargement
  - T10–L2 Stimulation of Bartholin Glands
  - S2 – 4 Contraction of uterine, vaginal & pelvic Floor Muscles

Orgasm
- Learned Reflex in which Brain interprets multiple separate Events as pleasurable, followed by Relaxation
Sexual Dysfunction: Outcomes

- **MS Plaques**: Impairs psychogenic pathways to & from brain, but often not the reflexogenic mechanisms.
- **Libido**: May be affected directly by MS plaques and indirectly by stress, depression, meds.
- **SCI > T6**: Ni or enhanced reflex, ↓ psychogenic response.
- **SCI S2-4**: Ni psychogenic, ↓ Reflex Response.

**Outcomes**
- Complete vs. incomplete.
- Unable to achieve any sexual responses.
- Response possible, but inadequate for intercourse.
- Response further impaired by medications & other medical conditions.
- When ejaculation occurs, it may be retrograde or propulsion via penis may be disrupted.
Evaluation

- Medical and Sexual History
- Physical Examination
  - Secondary sexual Characteristics
  - Check for genital Abnormalities
  - Check Groin and peripheral Pulses
- Lab Tests
  - Sex Hormones, HgA1c, Lipids
- Psychological Evaluation
Sexual Dysfunction: Treatment

- Problem with Bladder Function
  - Drink less before Sex
  - Intermittent Catheterization before Sex
  - Tape Foley to Thigh/Belly, or remove

- Problem with Bowel Function
  - Timed Bowel Program
  - Eat less, avoid Caffeine before Sex

- Problems with Sensation
  - Vibrators, Masturbation,
  - Sensate Focus, Pleasure Mapping

- Problems with Desire & Arousal
  - Estrogen, Testosterone, PDE 5 Inhibitors
  - Lubricants, Dopamine Agonists

- Problems with Orgasm & Satisfaction
  - Education, Communication, Exploration.
  - Visual/manual Stimulation & Vibrators.
  - If Medication Effect, consider Alternatives

- Spasms & Spasticity
  - Muscle Relaxants & Physical Therapy
Hormone Therapy
Hormonal Abnormalities are rare Causes. But low Testosterone can result in ED.

Success Increased Libido, but ED improved only in 50%

Risk May increase Risk of benign & malignant Prostate Growth

Cost 200mg im q2–3 wk ~$ 20/mo
Andro-Gel/-Derm ~$200/mo
MUSE: Medicated Urethral System for Erection

Aprostadil Pellet (3 mm) is placed in Urethra. Drug absorption into Tissue causes Arteries to widen & Tissue to engorge. Erection in 10 min. Dose 125, 250, 500, 1000 mcg. Lasts 30-60 min. Max: 2x/Day

Success 40%

Risk Infection Burning Fainting

Cost $17 - 25
Sexual Dysfunction: Treatment

**Penile Injections**

Papaverin 7-60mg, Prostaglandin E 2-40mcg, Aprostadil 1-60mcg, Pap+Phen, Pap+Phen+Prost, VIP, Moxysylate 10-30mg,

Erection starts in 15 min, lasts >60 min. 1x/week

**Success** >85%

**Risk** Priapism, Scarring, Tingling, Infection, Seizures, Pain, ↓ BP

⇒ Use minimal Dose!

**Cost** $15 - 25/Injection
Sexual Dysfunction: Treatment

Vacuum Pump
Blood is drawn to Penis by Vacuum
Manual or Battery resulting in Erection.

Maintained by Constriction Ring
Success
~90% in SCI with Perseverance
Disadvantage
Blood Clots, Petechiae, cold Penis,
Skin Damage, Pivoting
Cost
Set Alarm Clock!
$100 - 400

Suction ↑
Sexual Dysfunction: Treatment

- **Constriction** When Erection can be reached, but not maintained
- **Risk** Blood Clots, Petechiae, Pivoting, Skin Damage

Set Alarm Clock!
## Sexual Dysfunction: Treatment

### Oral Drugs (PDE 5 Inhibitors)

<table>
<thead>
<tr>
<th>Drug</th>
<th>(Inhibitor)</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cialis</td>
<td>(Tadalafil)</td>
<td>5, 10, 20 mg</td>
</tr>
<tr>
<td>Viagra</td>
<td>(Sildenafil)</td>
<td>25, 50, 100 mg</td>
</tr>
<tr>
<td>Levitra</td>
<td>(Vardenafil)</td>
<td>2.5, 5, 10, 20 mg</td>
</tr>
</tbody>
</table>

### Mechanism
- Blocks Enzyme that inactivates Chemical which ↑ Blood Flow
- Hypophysial Oxytocin Release (may affect arousability)

### Success
- ED in general: 75 - 80%
- SCI T6 - L5: 65 - 75%
- Prostate Surgery: 40%
- Psychological Problems: >90%

### Onset
- 0.5 - 4 (Viagra) or - 36 (Cialis) Hrs
- Sexual Stimulation needed

### Cost
- $10/Tablet

### Risk
- CAD, Vision, Headache, Flushing, BP, Nausea, Nitrates, α-Blockers
- Minimal effective Dose
Sexual Dysfunction: Treatment

Penis: Rigid, malleable or inflatable implants if other options fail!

Satisfaction: >95%

Risk: Mechanical failure, sores, scars, erosion, infection

Cost: $13,000
Eros Clitoral Therapy Device
Small handheld Device with soft Silicon Cup attached to Battery Compartment. When turned on & with the cup placed over the clitoris, it exerts gentle suction causing increased Blood Flow. This stimulates clitoral Nerves & facilitates Arousal, Sensitivity, Lubrication & Orgasm.

Cost $350
Treatment of Male Infertility

“Assisted” Ejaculation (Masturbation)
- Extraction via Incision/Needle from Testicle, Epididymis, Vas deferens
- Rectal Probe Ejaculation (RPE)
- Penile Vibratory Stimulation (PVS)

Success/
Cost of PVS
30-40% low Amp, 55-85% high Amp
60-80% ≥T10, better Sperm than RPE
$40-100 low Amp, $400 high Amp

Risk
- Retrograde Ejaculation into Bladder (PVS < RPE). ➔ Catheter Retrieval
- Autonomic Dysreflexia (≥T6): Chills, Sweating, high BP. ➔ Meds, Bladder
- Pain, Muscle Contractions (RPS)
- Irritation, Swelling, Bleeding (PVS)
Treatment of Male Infertility

Freezing Sperm: not recommended - 50% die

Intrauterine Insemination:
Sperm injected into Uterus via Tube. Cost $700

In vitro Fertilization: Eggs & Sperms retrieved mixed, incubated x 2 D for Fertilization, injected thru Catheter via Vagina into Uterus. Cost $9,000

Gamete intrafallopian Transfer: Sperm & Egg retrieved, placed into fallopian Tubes. Cost $11000

Intracytoplasmic Sperm Injection: Few Sperm needed; injected into surgically obtained Egg, which is then placed into Uterus. Cost $13,000

Motility: ↓ fast, → Sperm must be handled quickly
SCI: Female Fertility

Women with MS can engage in sexual Activity, have Children, & need to consider Contraception.

Disease modifying Drugs are contraindicated in Pregnancy.

Pregnancy is a highly effective immunomodulatory State.

After Childbirth the Likelihood of Relapse is high, possibly modified by Breast Feeding.

**Contraception:** Hormonal Methods may cause DVT. Diaphragms, cervical Cap, Sponge are safe due to feeling.

Before getting pregnant, Women should chose an Obgyn and a Team with a Neurologist, Urologist, Physiatrist, Anesthesiologist, Respiratory Therapist, OT, PT, RN.

This Team can deal with possible Issues including: Exacerbations, Changes in Bowel Habits, Spasms, UTI, Pressure Sores from Weight & Posture Changes, respiratory Problems, Leg Edema, Muscle Spasms, DVTs, Autonomic Dysreflexia, Breast Feeding.
Key Points & Outlook

Evaluation & Treatment take **Time**, involve **both Partners** & a Treatment Team. May require Changes in Life Style, Medications. A Trial & Error Approach is warranted.

Every Person with MS and every Couple are different: The Approach must be custom-tailored.

Successful Outcome depends on Openness, Trust and Communication between Partners.

**Providers** must be comfortable discussing **Sex**.

**Sexual Pleasure comes in all Shapes & Forms.** Satisfaction may not require an Orgasm.

**Sex is Exercise:** Don’t ignore Heart Disease.

And lastly: **Safe Sex must be practiced.**
Robert Doisneau, The Kiss at City Hall, 1950

Gustav Klimt, The Kiss, 1907