



## Sexuality and Menopause

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### Objectives

- Identify normal physiological changes of menopause
- Explain how these changes may lead to sexual dysfunction
- Propose possible treatments for such dysfunction

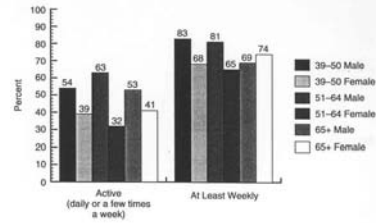


Figure 2. Prevalence (%) of sexual activity from age 39 to 65 and over. (Adapted from Janus SS, Janus CL: The Janus report on sexual behavior. New York, John Wiley and Sons, 1993, p 25; with permission.)

### SWAN Study

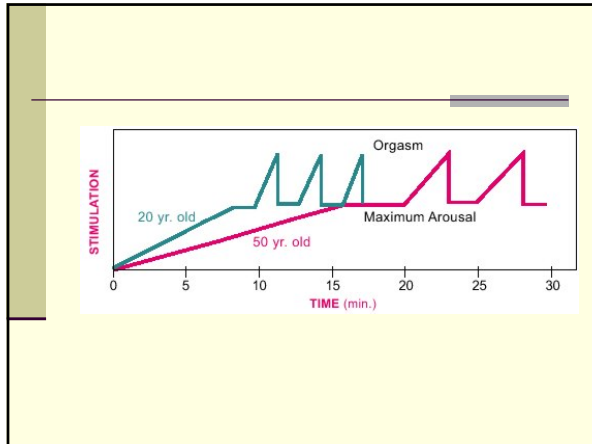
Cain et al. *J Sex Res* 2003; 40:266-76

	Menopausal status (%)	
	Pre	Peri
Sexual intercourse		
0-2 x/month	37.0	37.4
once/week	31.3	32.6
>once/week - daily	31.7	30.0
Emotional satisfaction		
Not at all/ slightly	14.0	13.2
Moderately	31.1	32.5
Very/extremely	54.9	54.3
Physical satisfaction		
Not at all/ slightly	10.8	9.7
Moderately	29.9	31.7
Very/extremely	59.3	58.6

### Prevalence of Female Sexual Dysfunction by Age (N=1,622)

Lauman, Paik, and Rosen; JAMA 1999.

Age	Lacks sexual interest (%)	Trouble lubricating (%)	Unable to orgasm (%)	Pain during sex (%)	Sex not pleasurable (%)
18-24	32.0	19.3	26.0	21.5	26.6
25-29	32.3	18.2	24.4	18.8	26.2
30-34	29.5	16.2	27.7	14.2	26.5
35-39	37.6	18.1	26.9	13.0	18.3
40-44	36.0	15.9	20.8	12.5	18.7
45-49	33.7	22.6	18.8	10.3	15.4
50-54	30.2	21.4	20.2	7.4	15.3
55-59	37.0	24.8	29.8	8.7	16.4
Overall	33.4	18.8	24.1	14.4	21.2



### Effects of Aging/Menopause on Female Sexual Function

- Decreased muscle tension
- Decreased clitoral perfusion
- Diminished vascularization and vaginal lubrication
- Decreased vaginal elasticity
- Atrophy/thinning of vaginal mucosa

### Psychosocial Factors Associated With Aging

- Diminished self-image
- Sense of de-feminization at menopause
- Loss/dysfunction of partner
- Stress of other medical/social issues

### It's Not All Bad News...

- Freedom from contraception
- Empty nest/return to focus on spouse
- Self-knowledge/awareness of sexual response
- Comfort with body/sexuality

### Menopausal Changes and Sexual Response

- Diminished blood flow → less genital engorgement
- Vaginal dryness → less lubrication
- Atrophy of vaginal mucosa → insertional dyspareunia
- Diminished sensation → delayed or absent arousal/orgasm

### Estrogen supplementation and sexual dysfunction

- Widely touted as effective in improving dyspareunia, effects of urogenital atrophy
- Studies of systemic ERT generally effective in improving sexual response
- Very few studies actually measure sexual response to topical therapy

## Systemic HRT and Sexual Function

- Three randomized, placebo-controlled trials of combination hormone therapy
- All showed improvements in both arousal **and** desire in women on HRT
- Improvements in both estrogen alone and estrogen-progestin

Dennerstein et al (1980) Obstet Gynecol 56: 316-22  
 Sherwin et al (1991) J Clin Endocrinol Metab 72: 336-43  
 Fonseca et al (2007) Clin Drug Invest 27: 131-7

## Non-hormonal Treatments

- Lubricants
- Phosphodiesterase V inhibitors
- EROS clitoral therapy device
- Other topical products (eg, Zestra, Sensua)



## Sildenafil in Women

- 781 women ages 18-55 with arousal disorder
- Randomized to sildenafil vs. placebo
- **No improvement** in sexual response relative to placebo

Basson, R et al: J Women's Health Gend Based Med 2002; 11: 367-97.

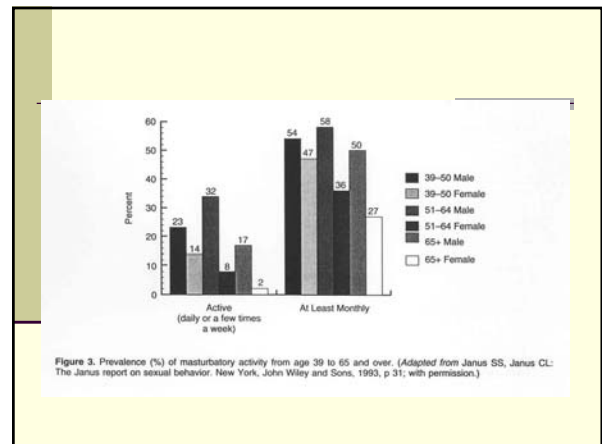
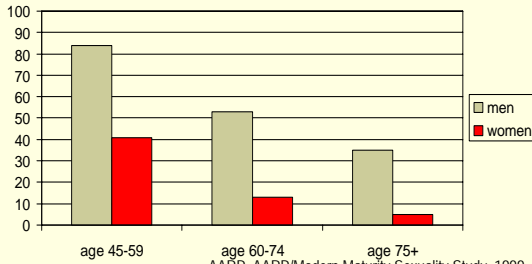


Figure 3. Prevalence (%) of masturbatory activity from age 39 to 65 and over. (Adapted from Janus SS, Janus CL: The Janus report on sexual behavior. New York, John Wiley and Sons, 1993, p 31; with permission.)

## Frequency of Sexual Thoughts

(% who have sexual thoughts once a week or more)



## Does Menopause Affect Desire?

Dennerstein et al (1997) *Maturitas* 26:83-93

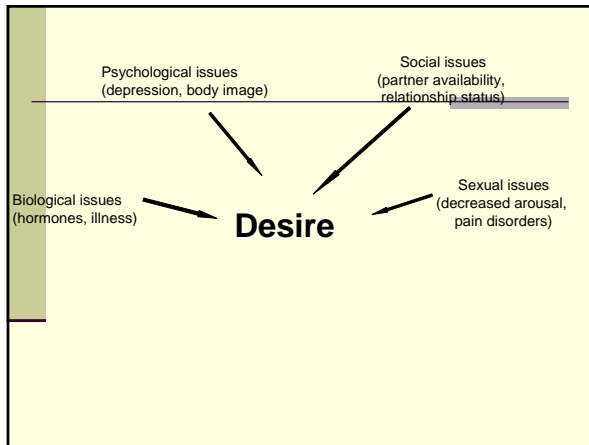
*Libido not significantly affected by age or menopausal status.*

Avis (2000) *J Gend Specif Med* 37: 37-41

*Decreased sexual interest in women affected primarily by marital status, then age, education, and menopausal status.*

Reed et al (2007) *Am J Obstet Gynecol* 196: 593; e1-e7

*Diminished libido associated with vasomotor symptoms and disturbed sleep.*

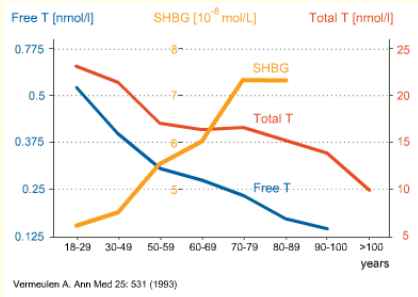


## Testosterone and Menopause

Thought to be a culprit in reduced sexual desire post-menopause:

- Deprivation → ↓ libido
- Enhancement → ↑ libido
- Testosterone levels decline with age

## Age-Related Decline in Testosterone Levels



In fact, no correlation between sexual function and androgen levels exists in menopausal transition

Davis et al (2005) *JAMA* 294; 91-6.

Dennerstein et al (2002) *Fertil Steril* 77(suppl) s42-s48.

Measuring testosterone level not useful to determine a "deficiency"

## Typical Serum Hormone Concentrations (pg/ml)

	Reproductive age	Natural Menopause	Surgical Menopause
Estradiol	100-150	10-15	10
Testosterone	400	290	110

From Graziottin and Leiblum (2005) J Sex Med 2 (supp 3) 134-46.

## Testosterone Supplementation

- Consistently effective in improving desire disorder in surgically menopausal women in randomized controlled trials
  - Shifren et al (2000) New Engl J Med 343; 682-88.
  - Simon et al (2005) J Clin Endocrinol Metab 90; 5226-33.
  - Braunstein et al (2005) Arch Intern Med 165: 1582-9.
  - Davis et al (2006) Menopause 13: 387-96.
- All studies involved women using estrogen

## APHRODITE study

Davis SR et al. NEJM 2008; 359:2005-17

- 814 menopausal women on no estrogen
- Significant increase in desire scores for 150 and 300 mcg testosterone vs. placebo
- Significant increase in satisfying sexual episodes only in higher dose group

## Androgen Risks

- Androgenic side effects
  - Acne
  - Hirsutism
  - Alopecia
  - Clitoromegaly
  - Voice changes
- Hepatotoxicity
- Lipoprotein derangements

## North American Menopause Society

### Position Statement on Testosterone Therapy in Postmenopausal Women

- Testosterone therapy may be useful in well-estrogenized postmenopausal women with sexual desire disorder
- Measuring androgens should be done to monitor treatment, not diagnose
- Transdermal products preferable to oral and IM products
- Testosterone therapy should be given at lowest dose for shortest time to meet treatment goals.

Menopause (2005) 12; 497-511.

## Conclusions

- Women may continue to enjoy healthy sexuality throughout menopause
  - Physiologic changes may affect sexual functioning
  - Sexual dysfunction does not necessarily correlate with measurable changes
- \*Best predictor of postmenopausal sexual function is premenopausal sexual function\****

*Actually, you can have  
a healthy sex life well into your later  
years. Assuming you can stand  
the sight of people  
your age naked.*

