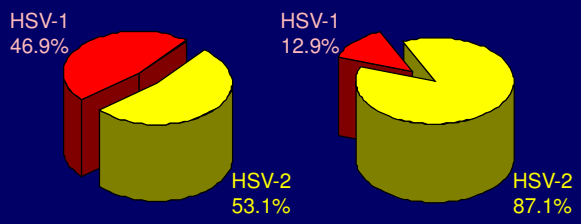
Comparison of HSV-2 vs. HSV-1

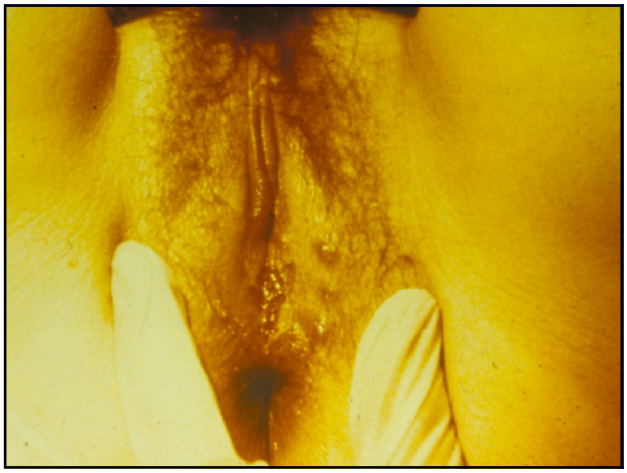
- HSV-2 70-90% of genital/perirectal infections
- HSV-1 has become leading cause of newly Dx'ed genital infections among 16-21yo (31% '93; 78% '01)
- HSV-2 More Frequent Recurrences
  Median ~4 vs. HSV-1 <1
- HSV-2 More Extensive Asymptomatic Shedding
- BOTH Neonatal Transmission
- HSV2 - attenuated by prior infection with HSV1-Ab

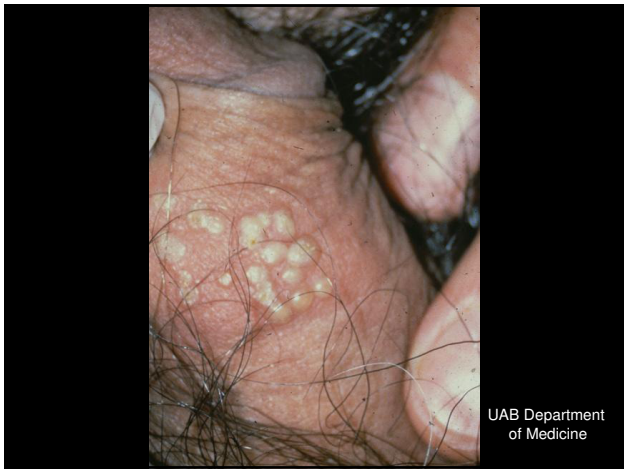
Isolation of HSV-1 and HSV-2 According to Sexual Orientation

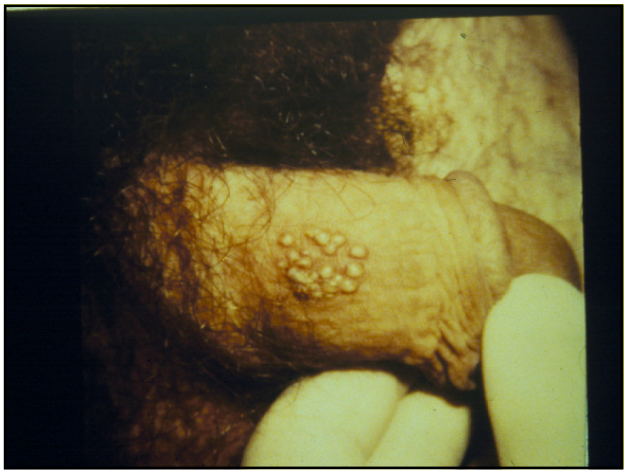
Initial Episodes of Genital Herpes
(*Harborview Medical Center*)



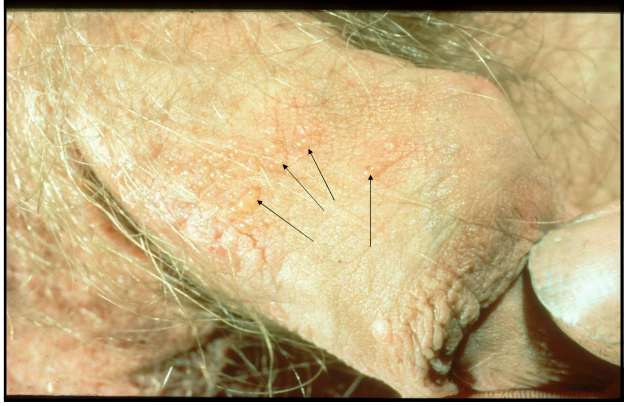
MSM | Heterosexual Men

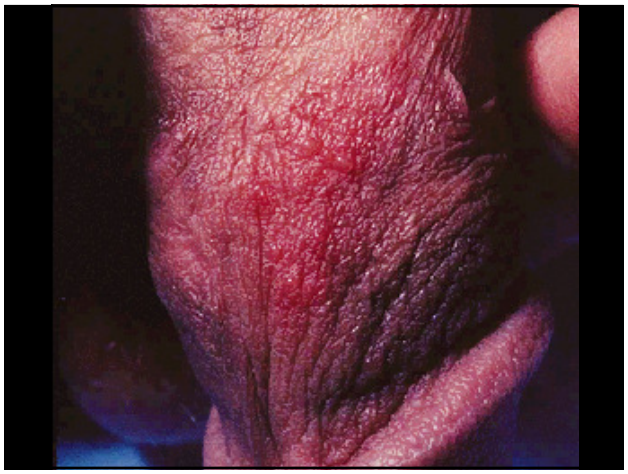


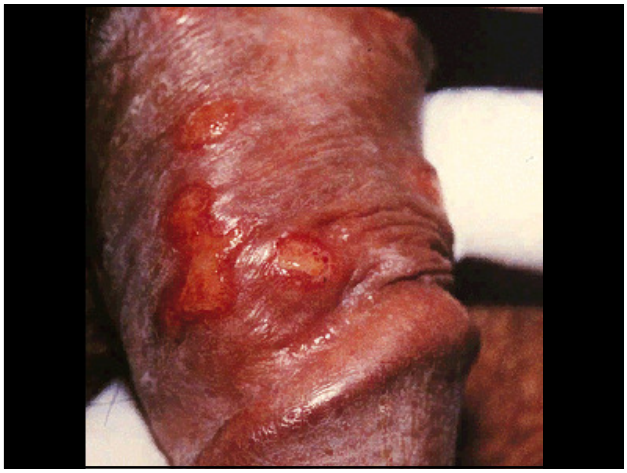




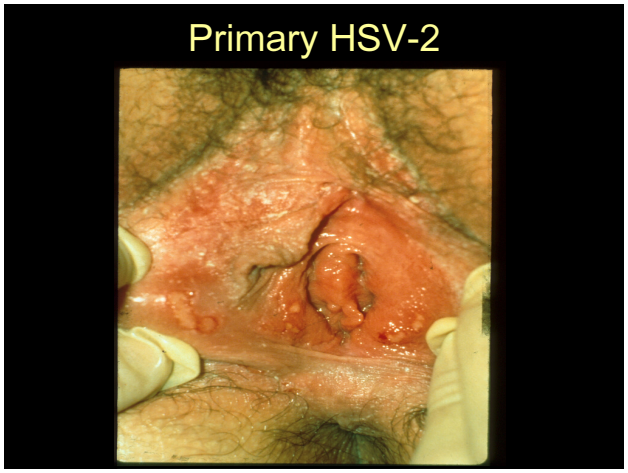
Primary HSV-2

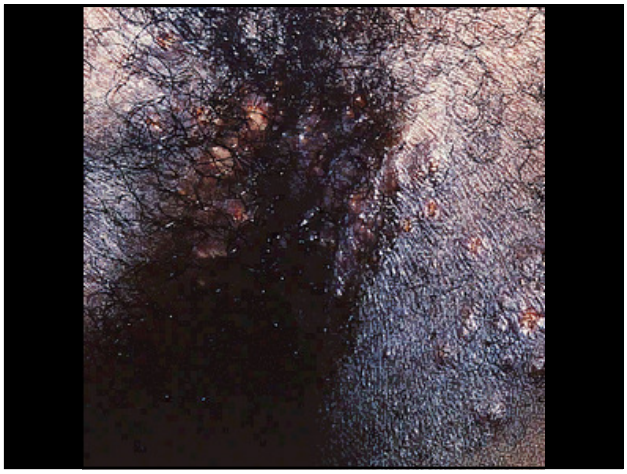


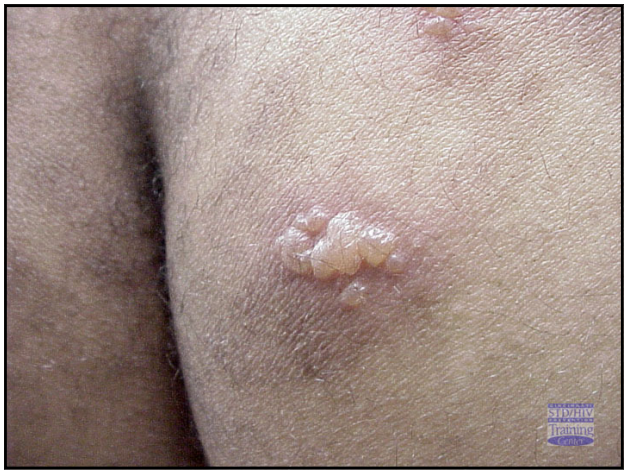




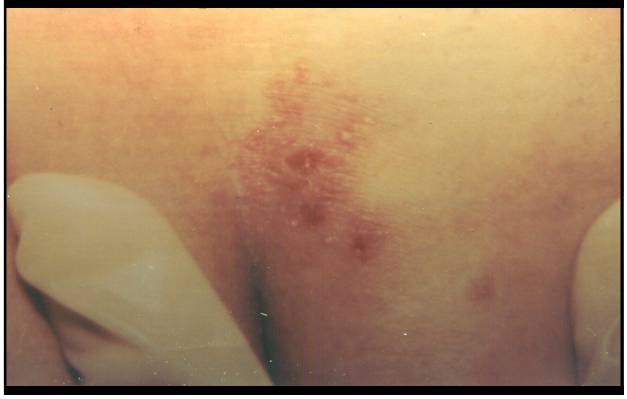
Primary HSV-2



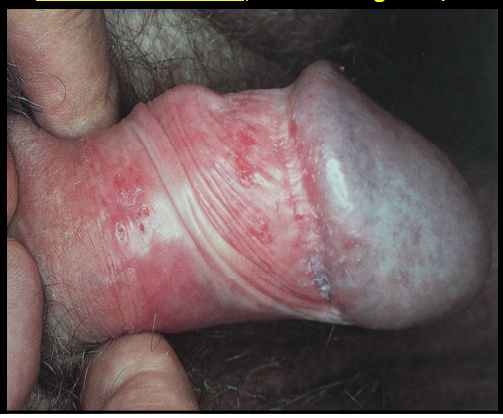


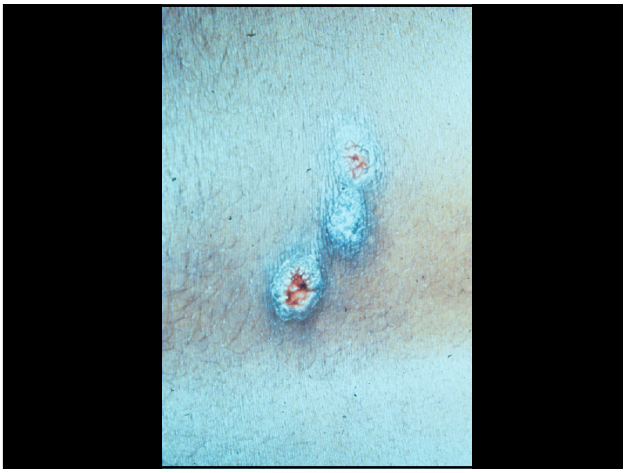


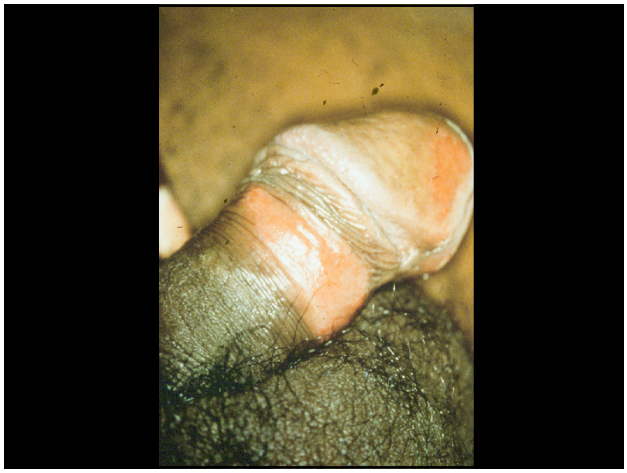
Recurrent gluteal HSV-2

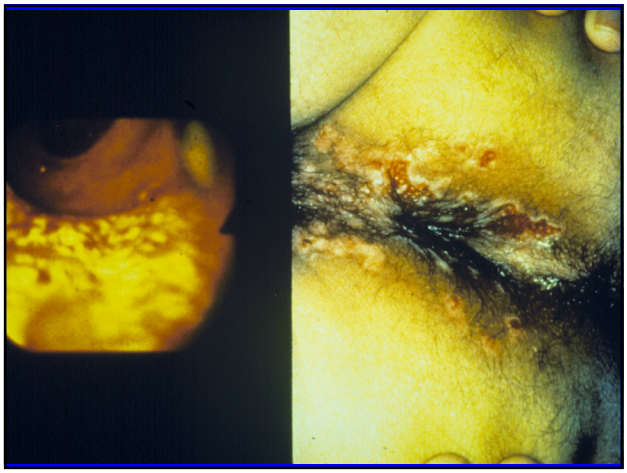


From Genital Skin Disorders, Fisher & Margesson, 1998









Atypical presentations

- "Classic herpes" is not typical herpes
- Subtle signs, often missed clinically
  - Linear ulcerations/fissures
  - Excoriations
  - Folliculitis
  - Patchy erythema
  - Vulvar itching
  - Intermittent dysuria

DIAGNOSIS

- Clinical diagnosis – most common
- Viral Culture – "gold standard"
- Antigen Detection – DFA, EIA
- Serology : Western Blot, EIA, Newer type specific
- PCR
- Tzanck –rapid, cheap, simple, sensitivity ~ 50%

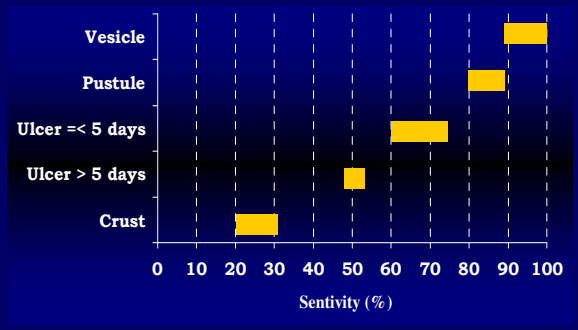
Accuracy of clinical diagnosis of genital herpes

		HSV-2 infection (WB) +	-
Clinical Diagnosis	+	60	14
	-	95	2224

Sensitivity= 39% **PV- =96%** **False Negative Rate= 61%**

Specificity= 99% **PV+ =81%** **False Positive Rate= 0.6%**

HSV Culture Sensitivity



Virus isolated in 80% of primary lesions, but only < 50% (~30%) of recurrent lesions

Diagnosis of Genital HSV (cont.)

Serologic Tests for HSV (Sen 97-100%; Spec 94-98%)

- New tests (EIA and Western Blot) using glycoprotein G1- and glycoprotein G2-specific antigens [HerpeSelect 1&2, Focus; BioKit (POCkit) 2; SureVue 2]
- Useful in following scenarios:
  - recurrent genital symptoms, atypical symptoms, or healing lesions with negative HSV cultures
  - a clinical diagnosis of genital herpes without laboratory confirmation
  - a partner with genital herpes
  - ? Comprehensive evaluation for STDs among persons with multiple sex partners, HIV infection, and among MSM at increased risk for HIV acquisition

Guidelines for the Use of Herpes Simplex Virus (HSV) Type 2 Serologies:

Recommendations from the California Sexually Transmitted Diseases Controllers Association and the California Department of Health Services

http://www.stdhivtraining.org/pdf/HSV_guidelines.pdf

http://www.stdhivtraining.org/pdf/HSV_guidelines_summary.pdf

Ano-genital HSV-2 Asymptomatic Infection/ Transmission

"[re]conceptualization of genital herpes as a chronic, nearly continuous, active infection, rather than an infection characterized by period recurrences interspersed with periods of disease inactivity"

An evolving Understanding of Genital Herpes Pathogenesis: Is It Time for Our Approach to Therapy to Change As Well? Journal Infectious Diseases Feb 2010; 201:486-7

Ano-genital HSV-2 Asymptomatic Infection/ Transmission

- One-third of all reactivations are asymptomatic
- HSV2 shedding (by PCR) 28-37% of days
- Cervical viral shedding in 12-20% women with recurrent outbreak
- Asymptomatic viral shedding → 70% transmission
- Among sero-discordant couples: 10% acquisition in 1 year; majority during lesion-free periods
- Viral shedding decreases with increasing duration of infection

"Overlapping Reactivations of HSV-2 in Genital and Perianal Mucosa"

- 4 HSV-2 seropositive women w/ Sx genital herpes, daily PCR sampling at L/R labia majora, L/R labia minora, cervix, urethra, perianal
- HSV detected 37% days
  - 41% were lesion-free days
  - 57% > 1 anatomic site (bilateral common)
  - Lesion assoc w/ shedding from multiple sites
- Dynamic model of viral reactivation: multiple areas of simultaneous HSV reactivation throughout ano-genital mucosa
- Counseling: when AND where shedding occurs is unpredictable

Journal Infectious Diseases, Feb 2010; 201:499-504

Antiviral Therapy

- Episodic Therapy
  - Aborts outbreak in ~ 25% if started during prodrome (within 24 hours of 1st signs/symptoms)
  - Faster healing after primary infection
  - Decreases viral shedding
  - Does not decrease number of recurrences
- Suppressive Therapy
  - Decreases recurrence frequency (75%) & duration
  - Decreases degree of asymptomatic shedding (by 48%)
  - Indications: Severe and/or frequent (6+) recurrences

Treatment Regimens:

Genital Herpes – To Prevent Transmission

Valacyclovir 500 mg qd:

- Decreases rate of HSV-2 transmission in discordant heterosexual couples by 48%
- Prevented ½- ¾ of all transmissions over 8-month period
- Consider as part of strategy to prevent transmission (avoid sex during symptomatic outbreaks, condoms otherwise)
- Findings likely apply to MSM, multiple partners, asymptomatic HSV2

Treatment Regimens:

Genital Herpes – Daily Suppressive

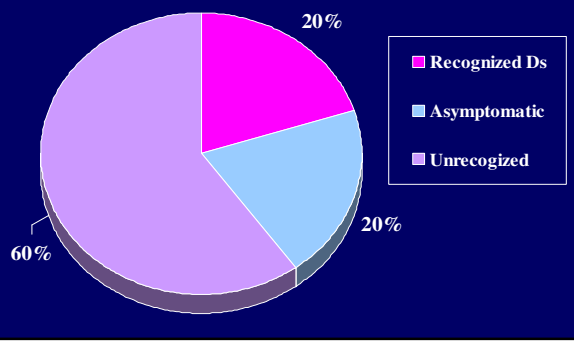
- **Acyclovir** 400 mg BID

  [400-800 mg BID-TID]

  Taken for 1 year: up to 50% pts recurrence free; median time to 1st recurrence ~8-9 months
- **Famciclovir** 250 mg BID [500 mg BID]
- **Valacyclovir** 500 mg qd [500 mg BID]
- **Valacyclovir** 1.0 g qd

Based on 2006 CDC Treatment Guidelines
[Recommended regimens for persons with HIV]

Clinical Characteristics of HSV-2 Sero-positive Persons



Recurrent infection

- Prodrome in ~50% occurs 12-24 hrs before lesions
- Lesions unilateral; less severe symptoms
- Duration 4 – 6 days
- 2–6 times/year (median: HSV1 <1; HSV2 ~ 4)
- HSV2 recurrences during year 1
  - 89% at least 1
  - 35% 6 or more
  - 20% greater than 10

New HSV-1 infections:
43% none, 1st year
67% none, 2nd year

- Decreased freq and severity over time (2/3 pts)

HSV
Counseling Issues

Survey of Genital Herpes Patients from 78 countries

53% Does this mean the end of my love/sex life?
37% Is there a cure?
36% How easily can I give this to someone else?
31% How did I get this?
26% I can't tell anyone about this!
19% Is there treatment?
19% How can I reduce the # of outbreaks I have?
17% Will I still be able to have children?
16% Will I (my partner) always have to use condoms?
16% How much discomfort/pain will next outbreak cause?

Sex Transm Infect 2004; 80: 192-197

HSV Counseling: Empowerment

Supportive Counseling should focus on empowering patients to take control of their disease so that they can:

- Understand the need to practice safer sex consistently
- Discuss their disease openly with partners
- Medically manage their outbreaks appropriately

HSV (STD) Counseling: Body Language

- Assess patient's tone and body language
- Be aware that patients will look for indicators of negativity or judgment
- Avoid taking notes/fiddling (disinterest)
- Project more positive non-verbal signs: Maintain eye contact, slightly lean towards patient, avoid stern face/frown

HSV Counseling: Clinician Issues

- Avoid discussion of possible causes of genital symptoms during exam
- Remain aware of limitations of exam and diagnostic tests
  - If culture taken from healing lesion, consider describing as "inconclusive" (need to retesting)
  - "Window period" for HSV serology: 6-12 weeks

HSV Counseling: Medical/Biological

- Natural history of disease:
  - Chronic (non-fatal)
  - Episodic manifestations (Symptom and prodome recognition)
  - Asymptomatic shedding (unpredictable)
  - Implication for reproductive health
- Prevention of Transmission: Abstinence during outbreaks & Condoms otherwise; Suppressive therapy
- Pharmacotherapy: episodic or suppressive

Issues in Counseling - Emotional/Relational

- Diminished Self-Esteem; Fear of rejection
- Anger at being exposed (self/partner)
- Unable to see their infection as only one part of themselves
- Grieve loss of perfection or invulnerability
- Fear of infecting current or future partners
- Loss of control (asymptomatic shedding)
- Reluctant to draw upon regular sources of support (shame/ isolation/ depression)

HSV Counseling: Offer Reality Check

- Not alone (1/4-1/5 adults have HSV-2)
- No serious health consequences for them personally, except for HIV acquisition
- HSV is not curable but IS controllable: Medications can help control symptoms and reduce transmission
- Can still have or father a healthy uninfected child

Issues in Counseling - Offer Reality Check (continued)

- Not punishment for a sexual mistake (oral transmission, <100% condom effectiveness)
- New infection may not represent infidelity in a current partner
- HSV is a virus, not a judgment- they're still same person they were before their diagnosis; they are more than just a person with herpes

www.ashastd.org/herpes