Dr Jill McIlraith

General Practitioner

South Dunedin

Investigating and Managing STIs - Concurrent Workshop Repeated)

Saturday, 30 July 2011	Start 2:00pm	Duration: 55mins	Skeggs Room
	Start 3:05pm	Duration: 55mins	Skeggs Room



Investigation and management of sexually transmitted infections

NZMA CME South Workshop – July 2011

Jill McIlraith – Dunedin Sexual Health Clinic,
GP Aurora Health Centre.

Thanks to Cally and Richard for the photos.

- STI trends in NZ
- Who to screen
- How to test
- Treatment of STIs
- Contact tracing / partner notification
- Challenges of being an adolescent friendly practice

STI Trends – NZ punching above its weight :

- Internationally – NZ leads the way vs Aussie, USA and UK.

- Nationally – Chlamydia, syphilis and herpes on the increase, HPV post-vaccination initiation and NSU decreasing, HIV - steady. Gonorrhoea: overall decrease but not in all DHBs.

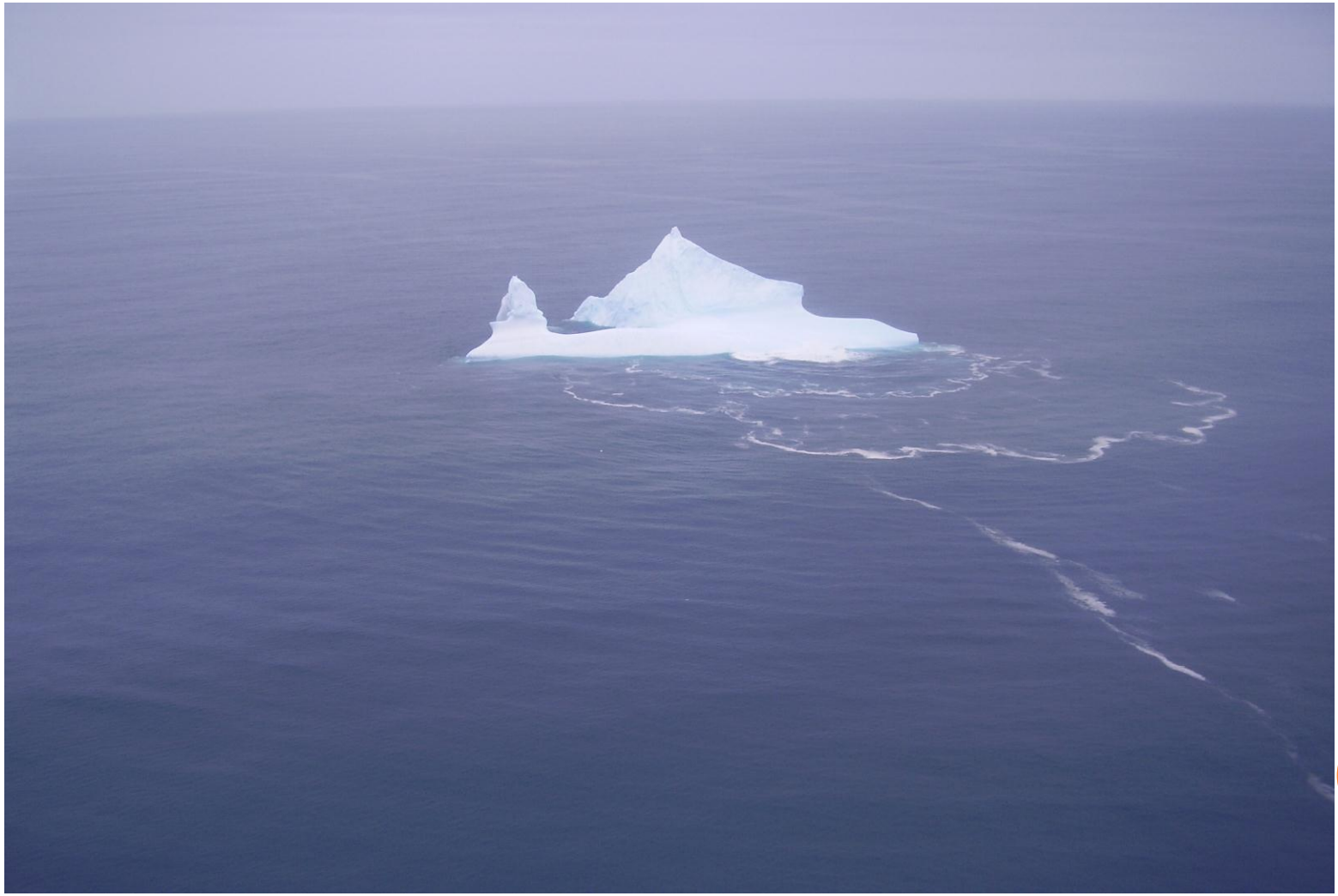
- Locally – Chlamydia most common; decrease in Dunedin numbers in 2010. Higher rates in rural areas.

BUGS ON THE HUNT – GO WHERE THE ACTION IS.

- **Chlamydia = commonest infectious disease in NZ.**
- **Warts – Human papilloma virus (HPV)- positive changes post HPV vaccine.**
- **Herpes Simplex (HSV)**
- **Others: gonorrhoea, syphilis, trichomonas, HIV, Hepatitis B and C, scabies, pubic lice.**
- **Associated infections: bacterial vaginosis and thrush.**

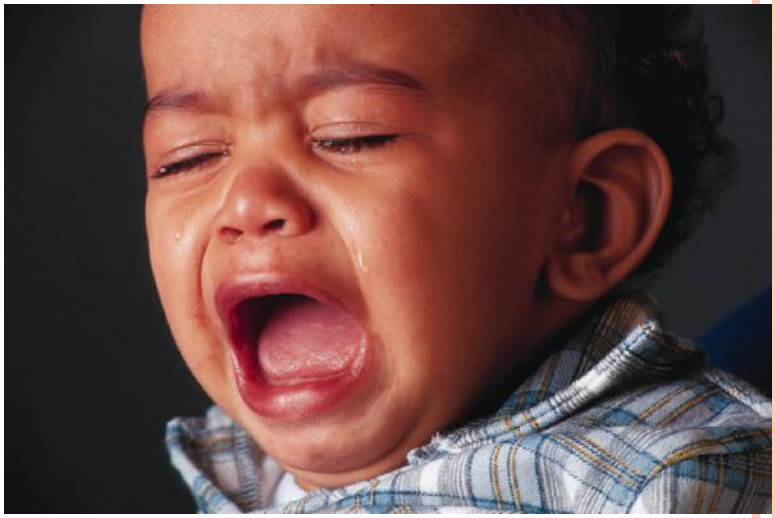
Ones we diagnose =

tip of the iceberg.



And you don't have to have sex to get these infection

- Just being born may be enough:



Nationally (2010):

--104 children less than 1 yr, dx with Chlamydia

-- 4 with gonorrhoea

Sexually Transmitted Infections in NZ. Annual Surveillance Report 2010.

www.surv.esr.cri.nz

Age ranges:

-- Chlamydia positive patients: 0 - 81
-- Syphilis: 17 - 81
-- Gonorrhoea: 0 - 72

DHB COMPARISONS – 2010
PER 100 000 POPULATION.

	Chlamydia	Gono.
Auckland	- 720	65
Tairawhiti	- 1309	360
Lakes	- 1192	68
Mid-Central	- 1160	69
Southern	- 700	
West Coast	- 670	43

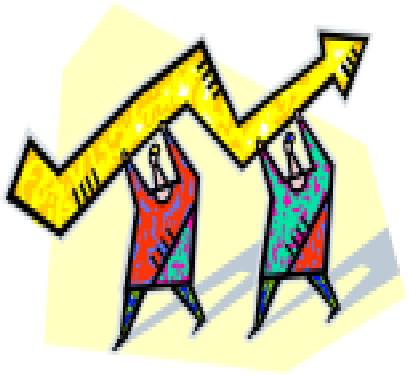
NATIONAL TRENDS 2006 - 2010

- Chlamydia: 13%
- HPV (warts): 1.4%
- HSV (herpes): 37%
- Syphilis: 99%

- Gonorrhoea: 20%

International comparisons /100 000

	Chlamy.	Gono.
New Zealand(2010)	- 803	- 65
Australia (2009)	- 286	- 37
UK (2009)	- 349	- 28
USA (2009)	- 409	- 99

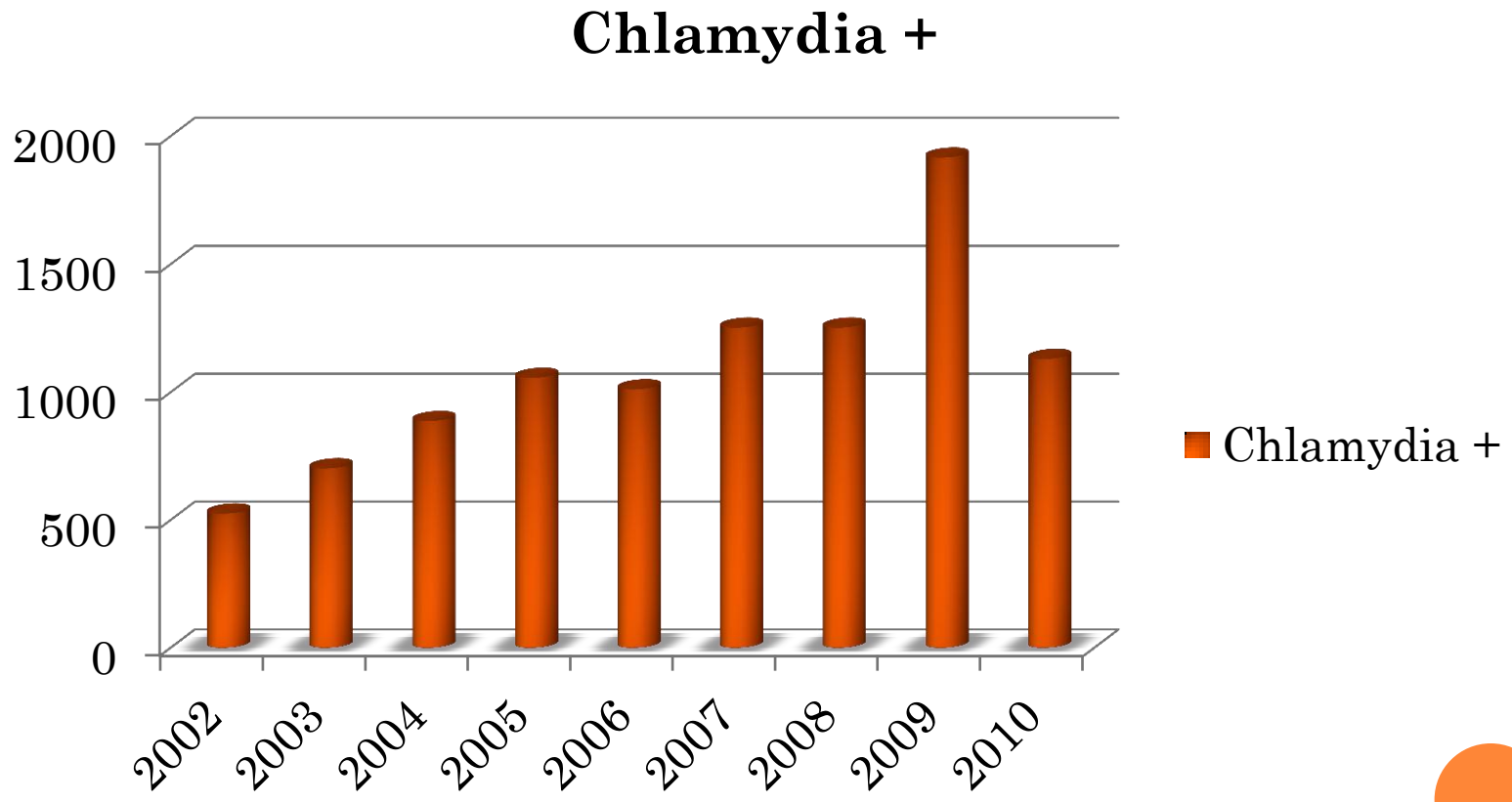


Rates of Chlamydia in rural area labs (2010) (positives per tests done)

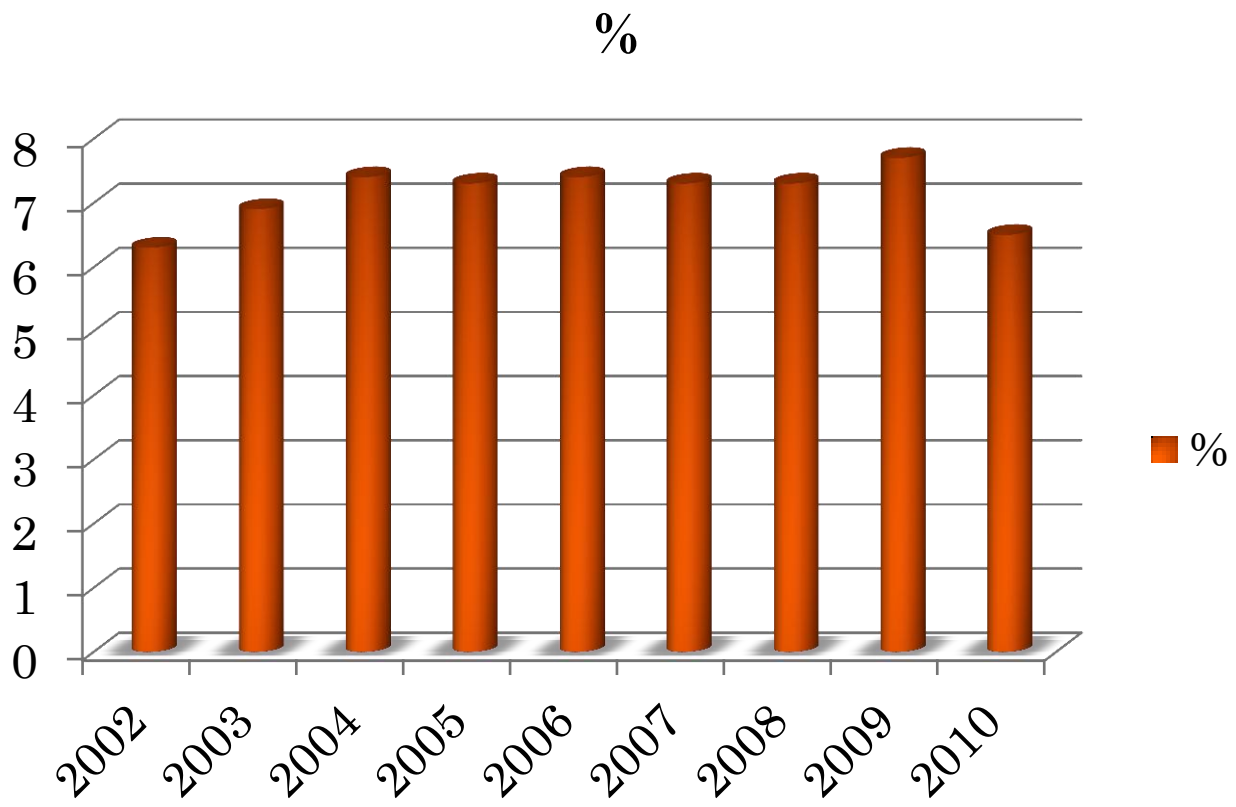
Oamaru	9.3%	(80/881)
Clyde	10.3	(74/716)
Queenstown	5.7	(146/2801)
Balclutha	9.5	(40/421)

- Dunedin 6.3%

Decrease in Chlamydia pos. in 2010 Dunedin city.



Chlamydia rates: % pos/tests done:



Have we turned the corner in Dunedin?:

From 2002 – 2009:

200% increase in no. of tests

264% increase in no. of positives.

But: 2009 – 2010

31% decrease in no. of tests

41% decrease in no. of positives.

Reasons for the increase 2002 -2009 -- speculation.

- **Lowering the drinking age**
- **Decreasing age at first intercourse**
- **Insidious and silent nature of Chlamydia**
- **Lack of national strategy – guidelines in limbo.**
- **Long time lag between the disease and its consequences – maims rather than kills.**
- **Attitudes to adolescents and their sexuality**
- **Difficulty finding strategies that target young men**

But why the drop in Dunedin in 2010?

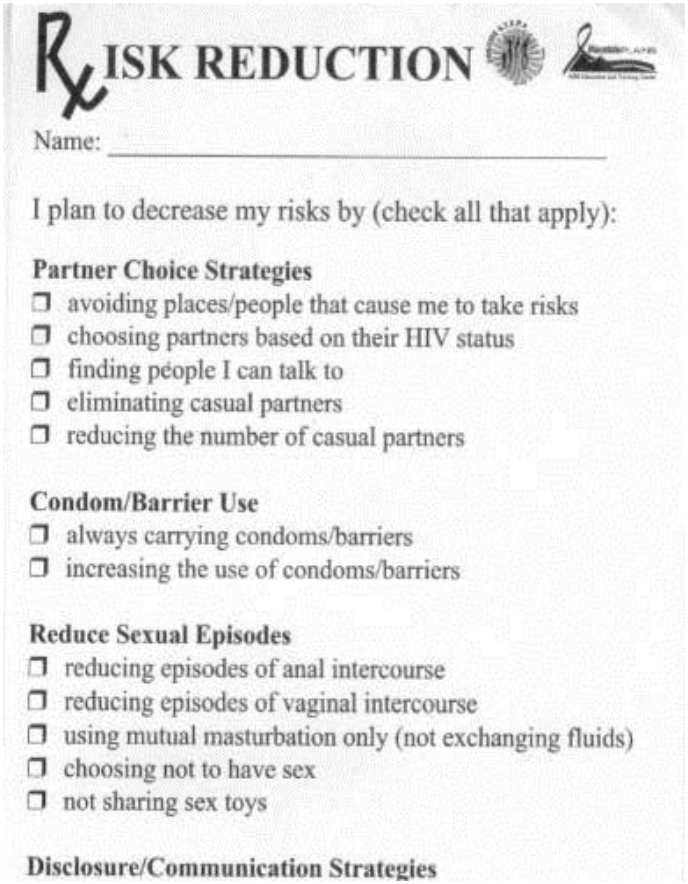
- Data collection inaccurate?
- Less awareness so less tests being done?
- Programmes such as WellDunedin PHO's U25 sexual health programme having an effect?
- Maybe a genuine drop?

One year's decrease does not make a trend – so we wait and see….

In primary care:

92% pick up rate if tests offered to patients with one or more of:-

(Verhoeven V et al. Chlamydia infections: an accurate model for opportunist screening in general practice. **Sex Transm Infect**. 2003 Aug; 79(4):31307.)



Rx RISK REDUCTION

Name: _____

I plan to decrease my risks by (check all that apply):

Partner Choice Strategies

- ❒ avoiding places/people that cause me to take risks
- ❒ choosing partners based on their HIV status
- ❒ finding people I can talk to
- ❒ eliminating casual partners
- ❒ reducing the number of casual partners

Condom/Barrier Use

- ❒ always carrying condoms/barriers
- ❒ increasing the use of condoms/barriers

Reduce Sexual Episodes

- ❒ reducing episodes of anal intercourse
- ❒ reducing episodes of vaginal intercourse
- ❒ using mutual masturbation only (not exchanging fluids)
- ❒ choosing not to have sex
- ❒ not sharing sex toys

Disclosure/Communication Strategies

- Under 25
- > 1 partner
- Not using condoms
- Symptoms such as post-coital bleeding or dysuria
- Pregnancy.

To these add:

- Sex when drunk
- Non-planner
- Those who have taken a vow of chastity/abstinence

What about abstinence?

- Does it work?

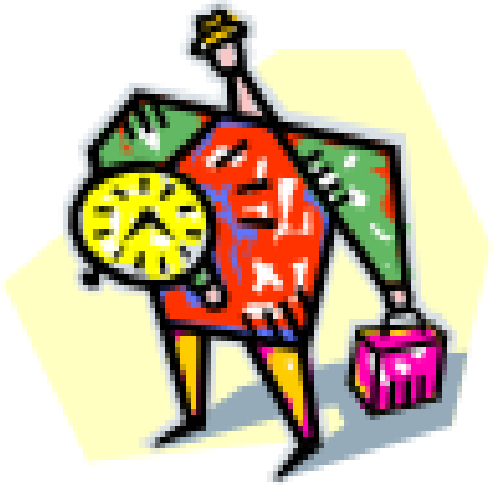
  --8/10 young people don't keep their pledge
- Hard to plan for safe sex when not planning on having sex at all
- Pledgers have as high a rate of STIs as non pledgers, less likely to seek help and more likely to suffer adverse consequences.
- Abstinence only works if it is ONE of the choices offered.

Testing.

- Women: HVS/cx swab (gono, trich etc)
  Chlamydia swab.
- Men: Urethral swab (abt 1cm into urethra)
  First void urine.
- Bloods- HIV, syphilis, Hep B + C.

Chlamydia.

- Symptoms MAY include: vaginal discharge, lower abdominal pain, pain when urinating.
- But most will have NONE.



Chlamydia = most common example of a silent STD.

- 80% of women and
  45% of men may have no symptoms

but it can still be doings lots of damage – often a silent and insidious infection.

- The myth of "I don't have any pain or discharge so it can't be doing me any harm".

Gender differences.

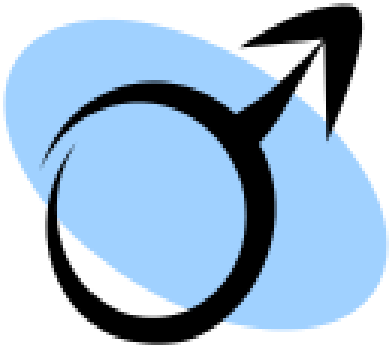
- Males and females both affected

(sexual health clinic stats):

BUT

Males have a greater positivity rate :

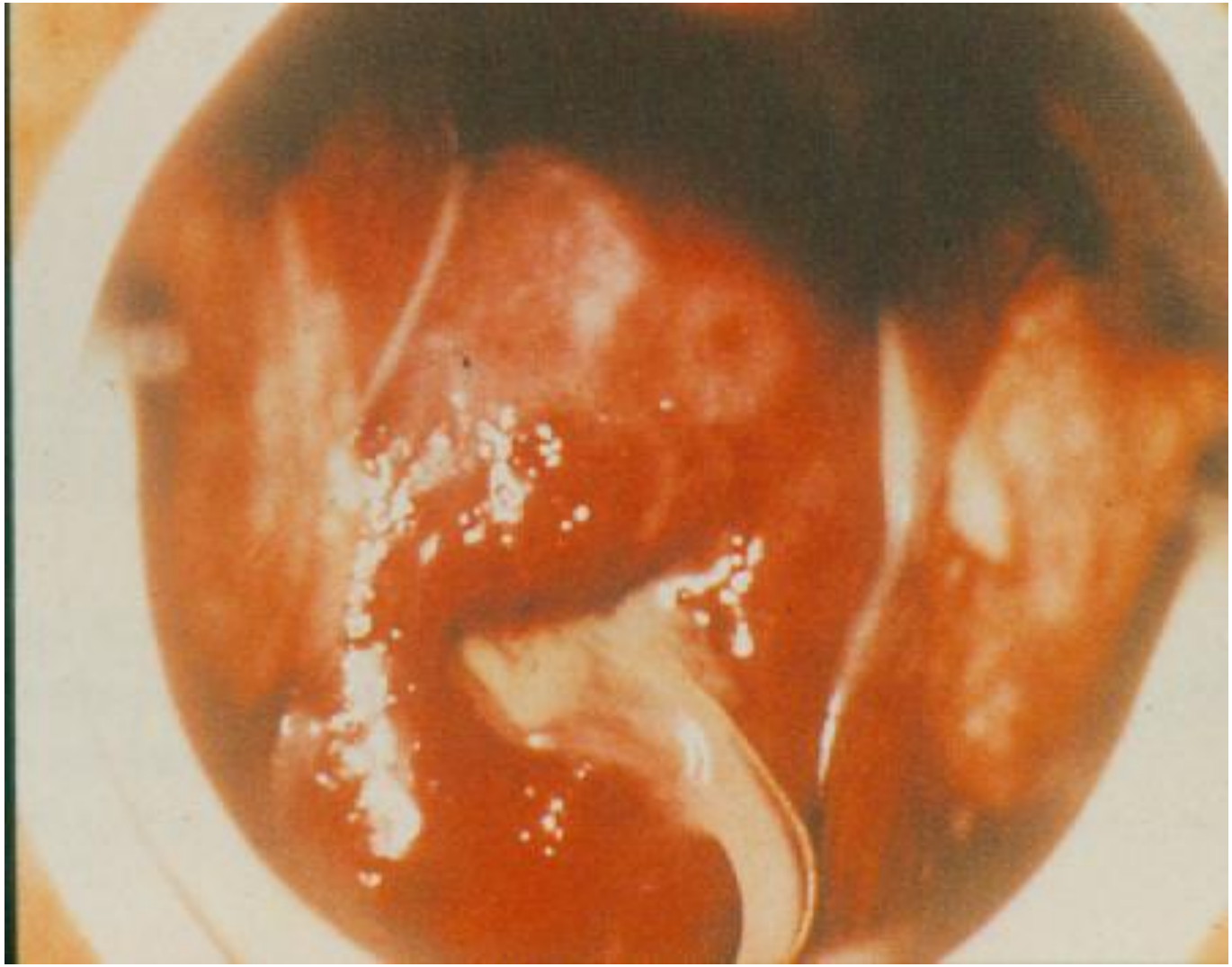
12.5% vs 6.5% for women



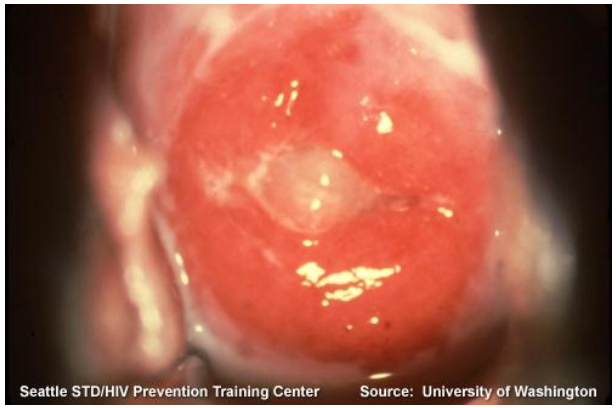
AND tested much less often :

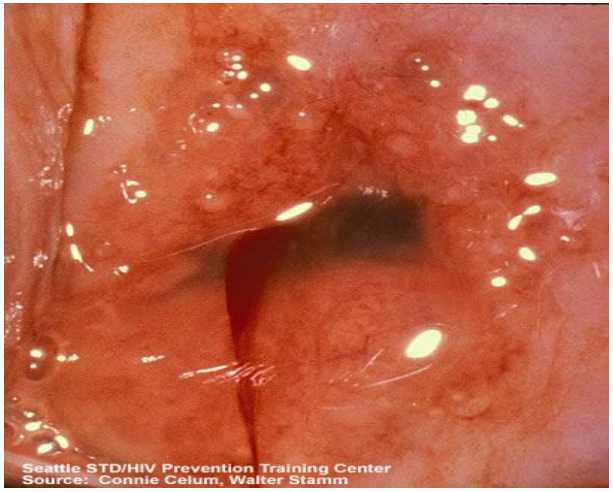
only **16%** of the tests are on men.

Chlamydia – MAY see pus through the cervix – but more often not….



If Chlamydia untreated – significant morbidity

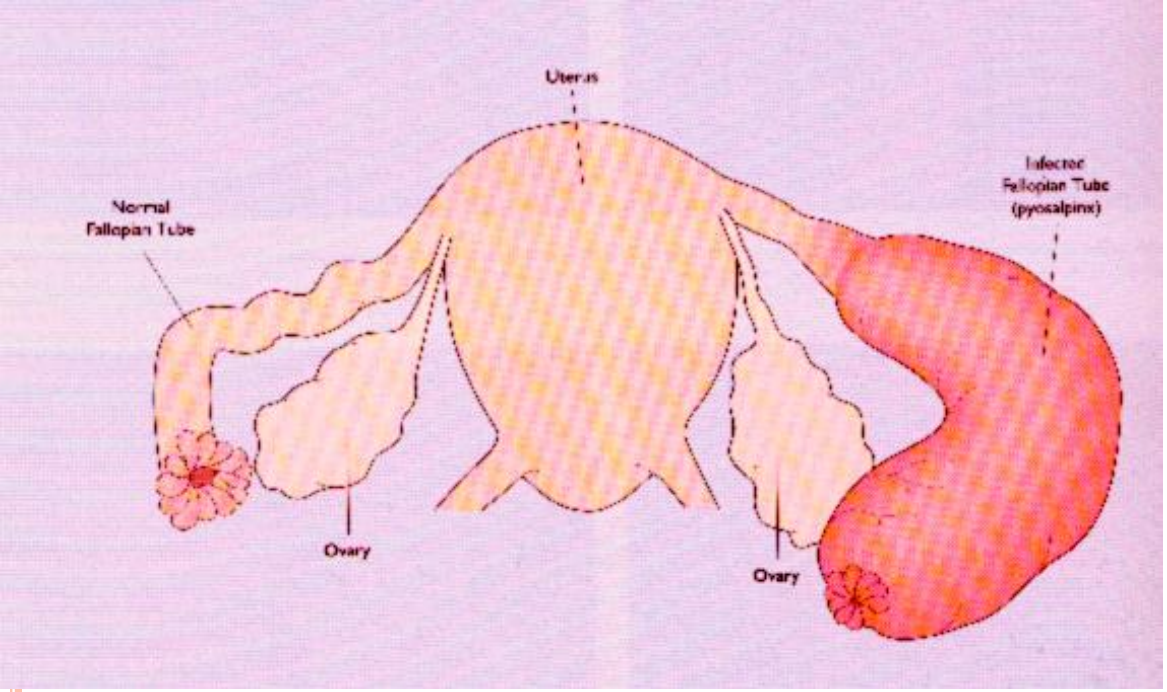




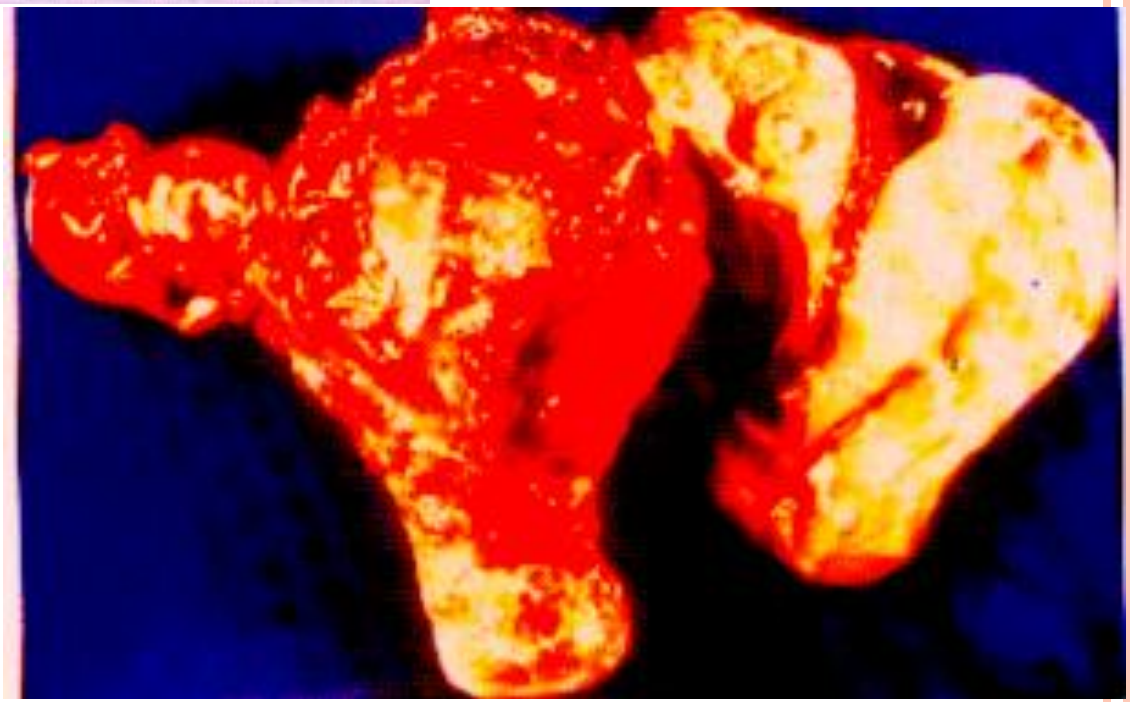
Women: PID, ectopic pregnancies, salpingitis, infertility, chronic pelvic pain, pregnancy complications for mother and neonate.

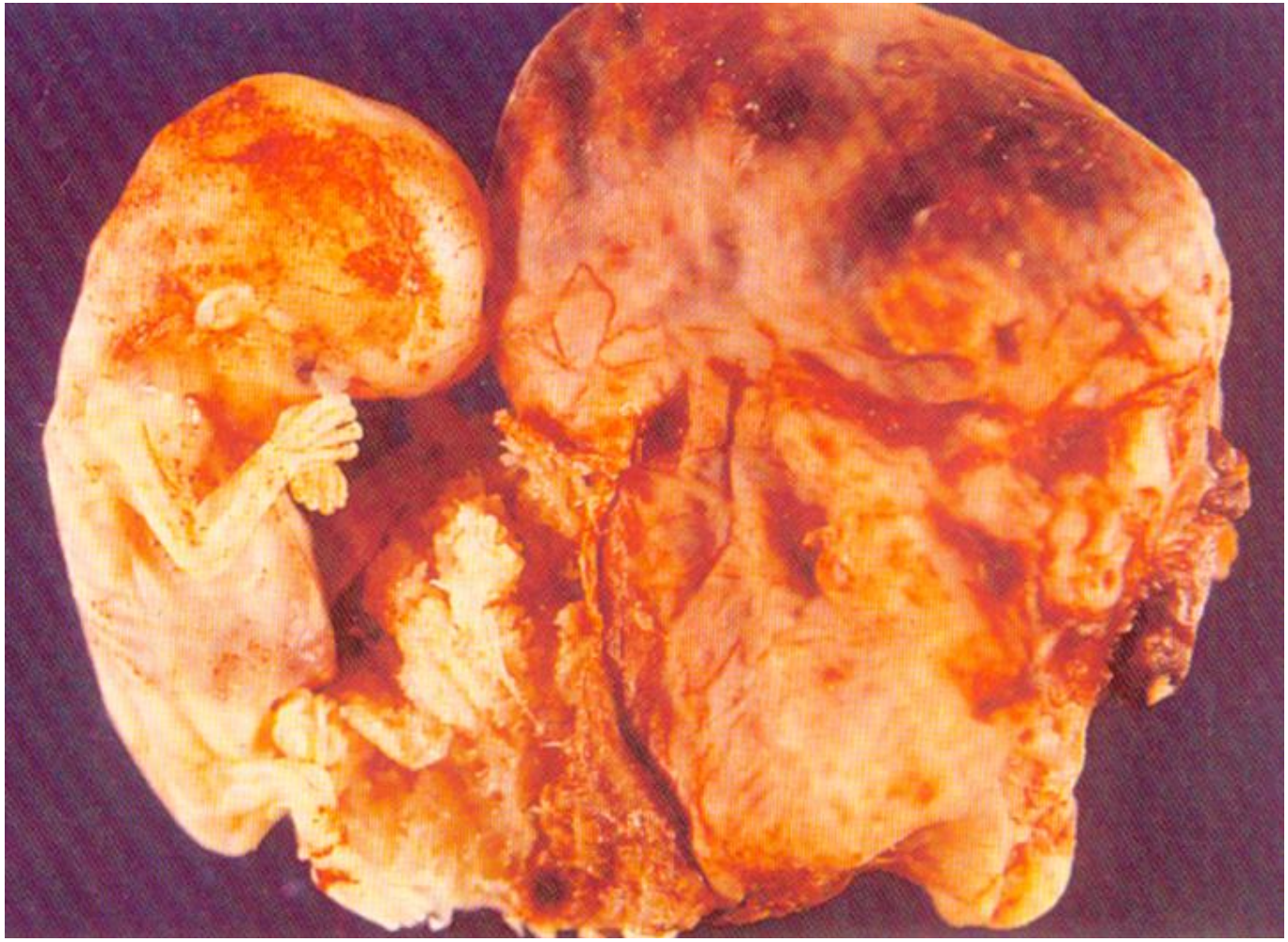
- If PID, fertility decreases by:
  13% (1st episode),
  35% (2nd),
  75% (3rd) (Westrom).

Men: Epididymitis, urethritis, infertility + chronic pelvic/perineal/urethral pain or discomfort.



Salpingitis





Ectopic pregnancy.

Chlamydia on a stick – Self-collected vaginal swabs (SAV)

Self and clinician-collected <u>equivalent</u> in asymptomatic patient or those who decline a pelvic examination.

VS 93% sensitive vs Cx swab 91%.

SAV swab better than urine.

(Shafer et al. , Comparing FVU specimens, self-collected vag swabs, and endocervical speciments to detect Chlamydia. J Clin Mcrobilol.2003; 41: 4395-4399)

Self-administered swab – Preferred by patients:

Recent Wellington study of 307 women under 25:

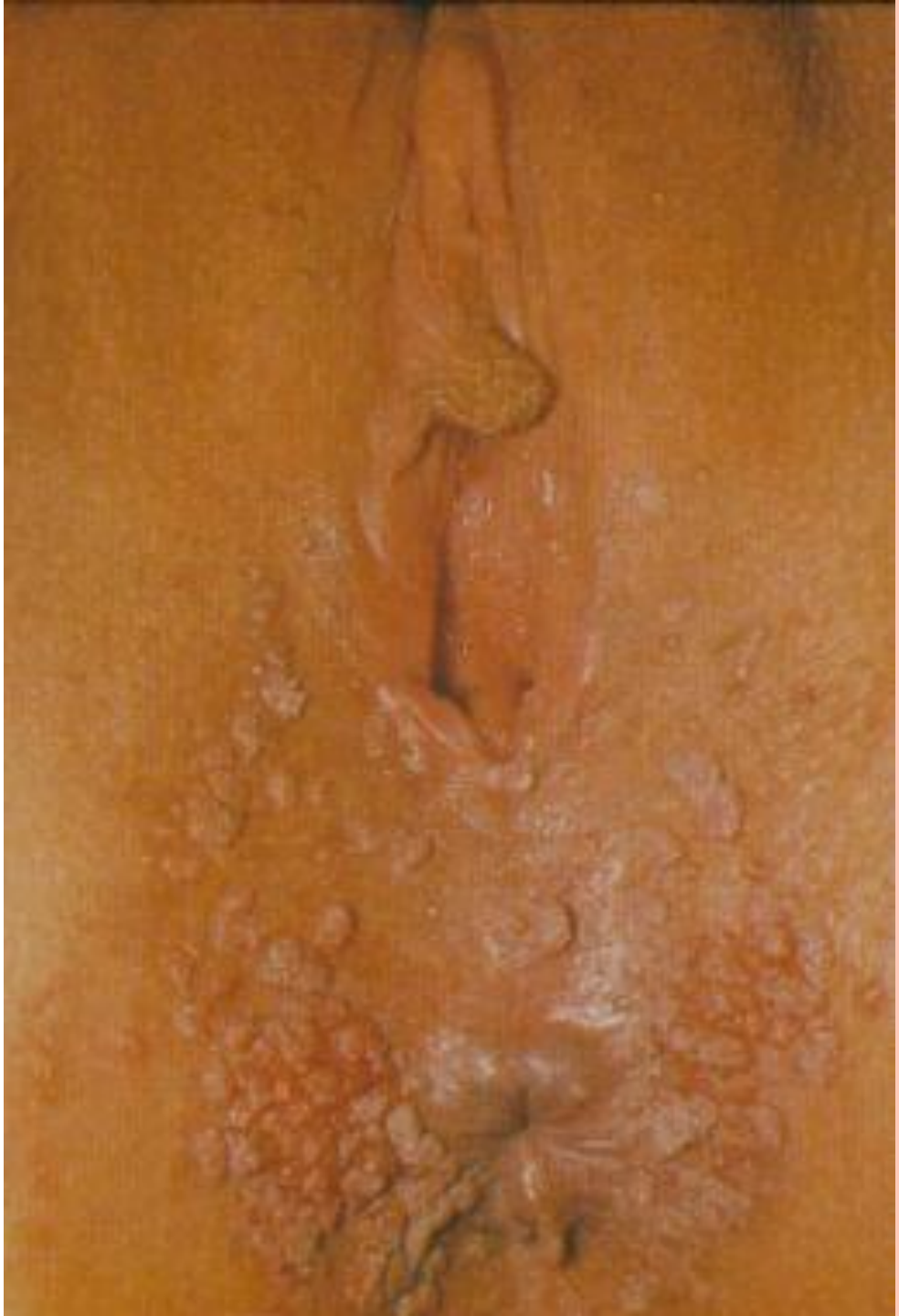
- 66% preferred self-admin Chlamydia swabs.
- Advantages: quick, practical, private, less equipment needed.
- ONLY should be used if no symptoms – ideal for nurse screening.

Chlamydia treatment.

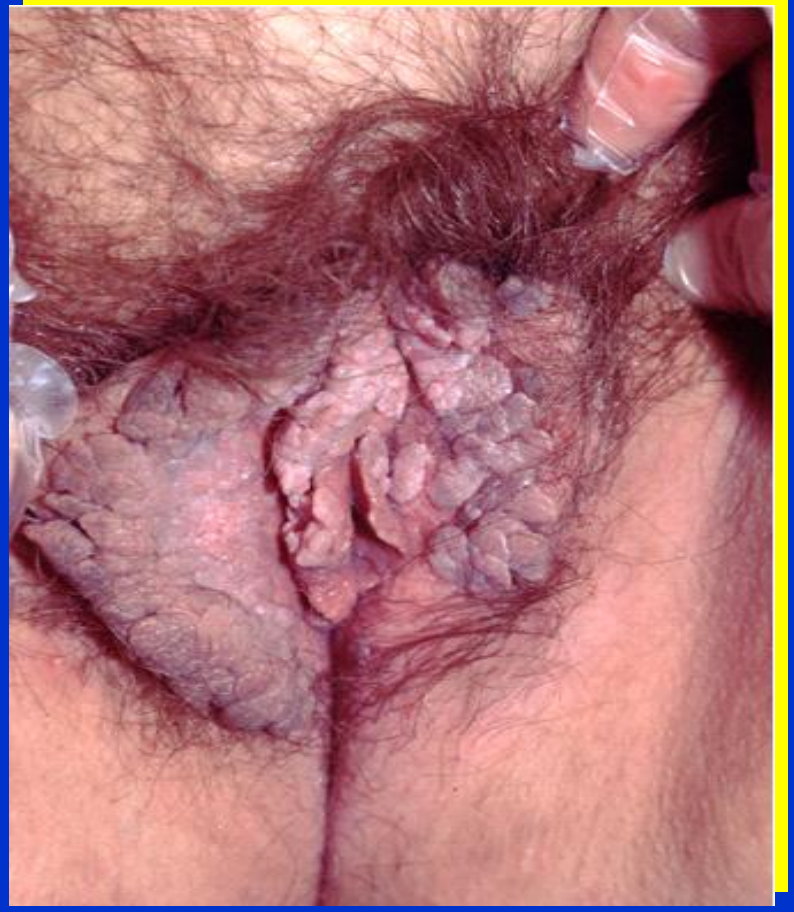
- Azithromycin 2x 500mg = 1g stat po
  -- well tolerated, few side effects, no resistance
- No unprotected sex for a week
- Only need a test of cure in pregnancy – need to wait abt 4 weeks otherwise false pos. as NAATs (=Chlamydia DNA tests) very sensitive and will pick up remnants of non-infectious DNA.
- Treat all partners – how far back to go depends on situation.

Genital warts

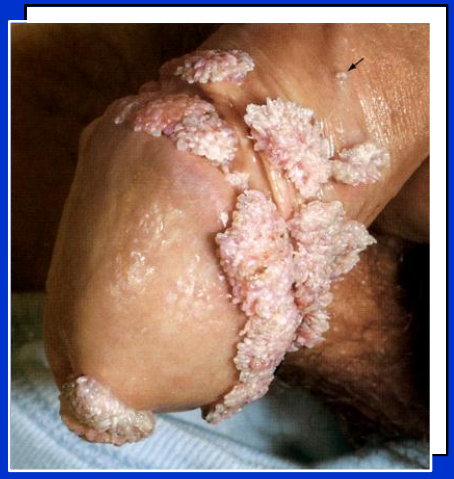
- Painless lumps.
- Itchy, bleed
- 'Look ugly'
- Can treat the warts but virus may stay in the skin for years.
- Incubation time – weeks to years.
- Linked to cancer of the cervix.
- Rx: liquid nitrogen, Condylline, Aldara.
- Good news= Vaccines.



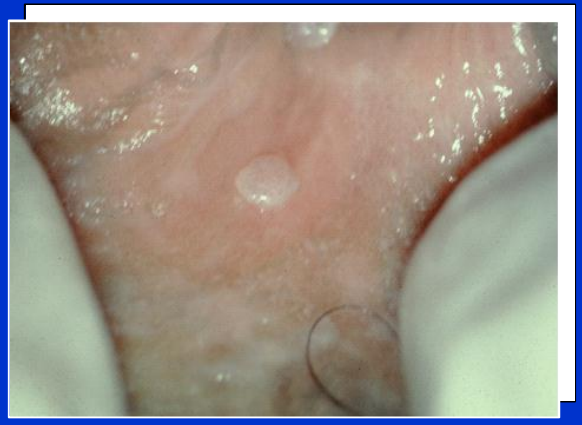
Condylomata Acuminata: Female



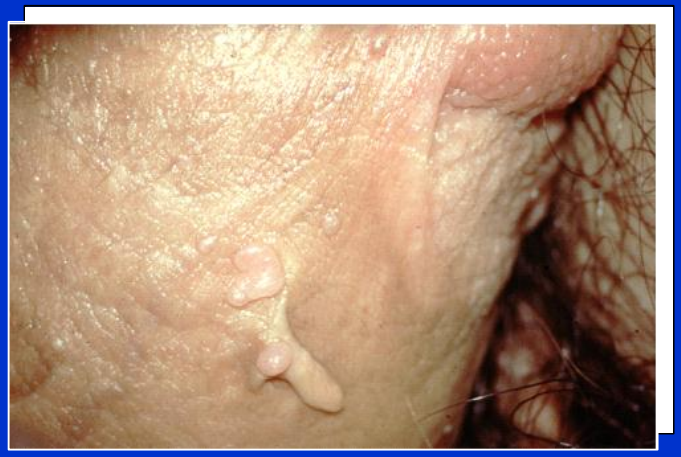
Clinical Manifestations of Genital Warts



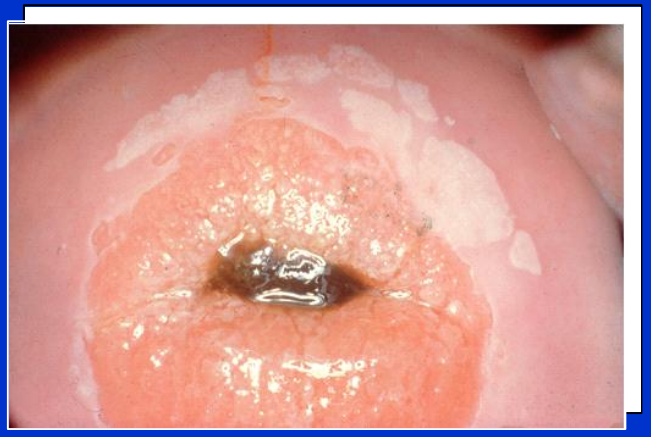
Condylomata acuminata



Smooth papular warts

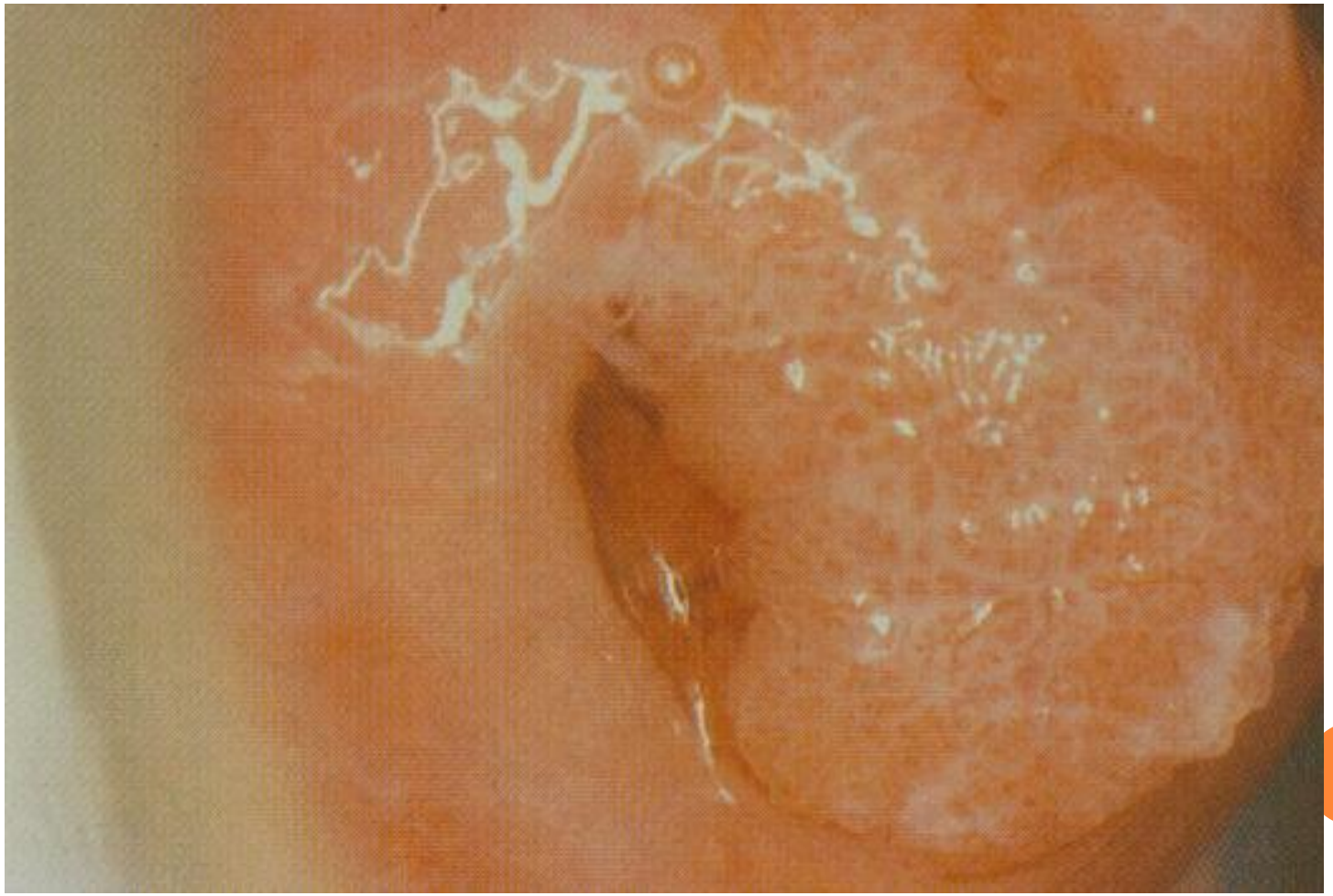


Keratotic flat wart

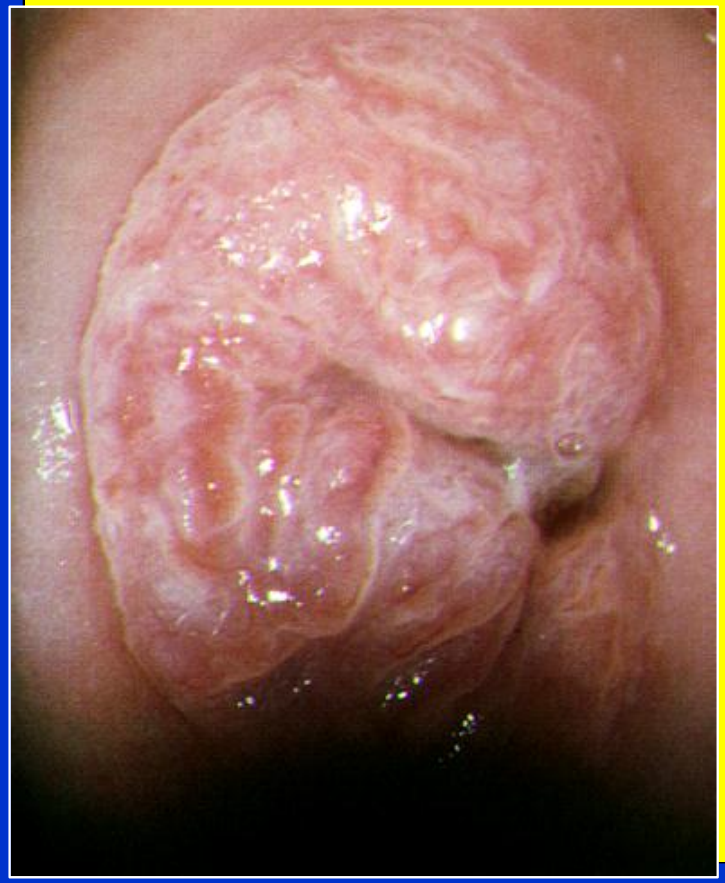


Flat cervical condylomata

Cervical wart.



CIN and Invasive Cervical Cancer



HPV VACCINES.

- Gardasil – 4 HPV types:
  - 6+11 = visible warts
  - 16+18 = cancer causing ones
- Cervarix – 16+18 only (UK)
- Gardasil – now being given to all NZ girls aged 11-18, those born from 1990 on.
- What about the boys? Would you pay for your son to be vaccinated?

HPV VACCINES.

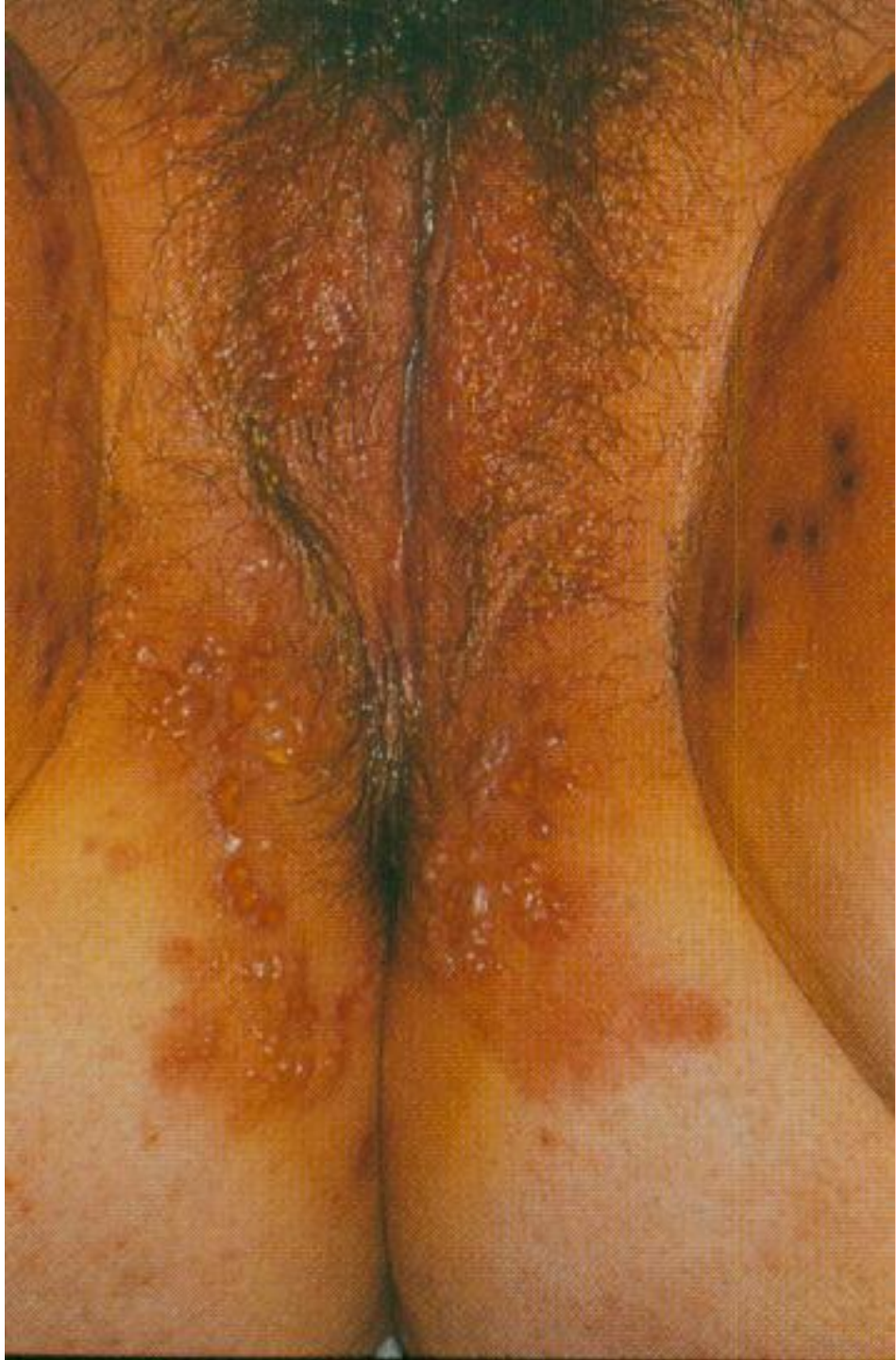
- Very safe vaccines.
- At 5 years still provide very good protection – ?Booster needed
- Licensed for females aged 9-45 years.
- Worth having it even if sexually active or visible warts.
- No tests available to see if previously infected.

HPV VACCINES – CONTINUED.

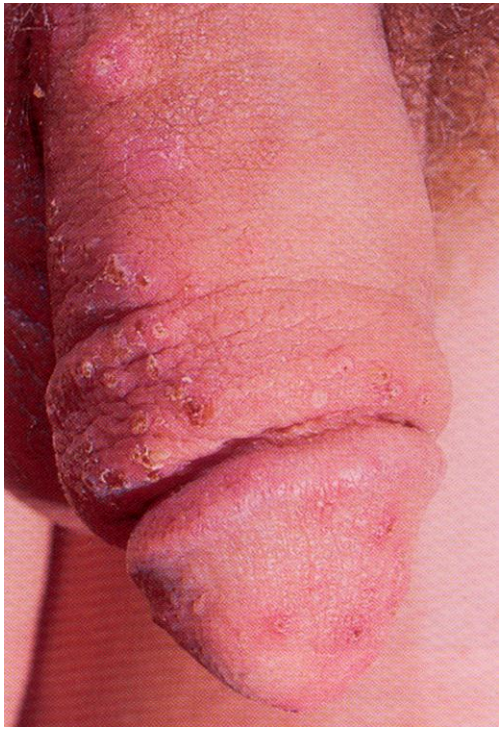
- 99% of ca cx linked to wart virus.
- Both vaccines close to 100% effective in preventing HPV infection.
- Likely to prevent 70% of cervical cancers (‘cos other types eg 31, 33, 54 can also cause ca cx.)
- Does not mean we can stop cervical screening through smears.

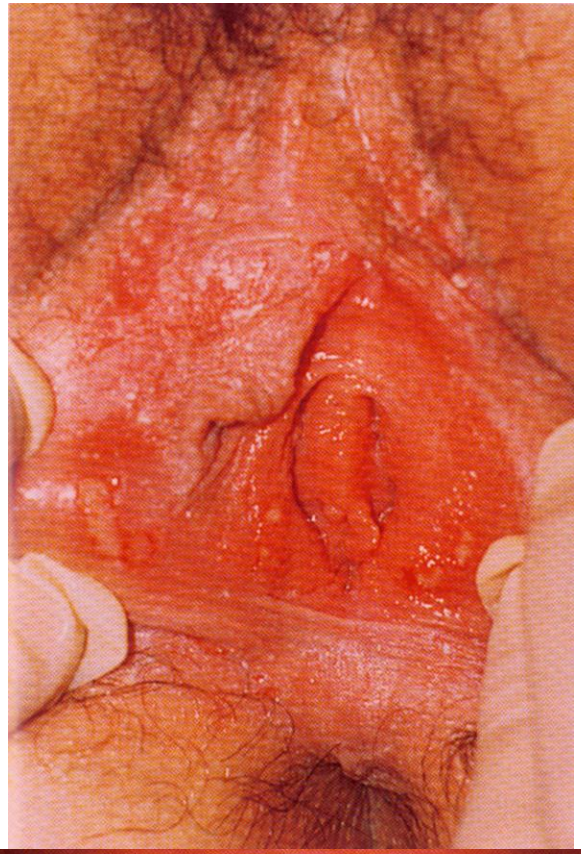
HERPES.

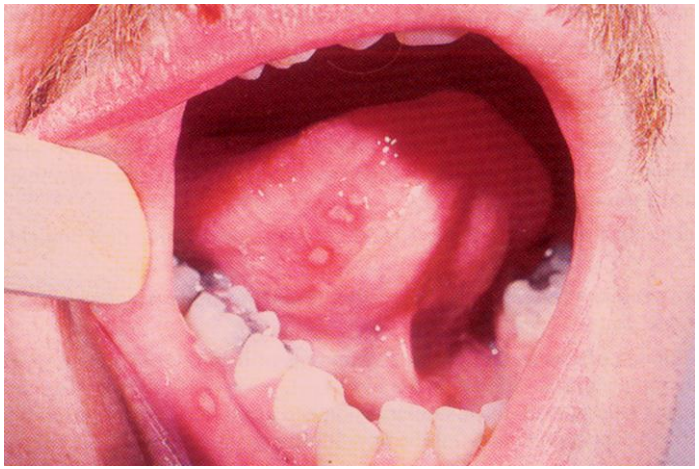
- Painful blisters and sores.
- May make walking or urinating sore.
- Incubation time: 5-21 days usually, can get recurrences.
- May feel like you have the 'flu.
- Rx (aciclovir) both primary infection and if frequent recurrences – suppressive treatment for a year.
- Vaccines being developed – several years away still.

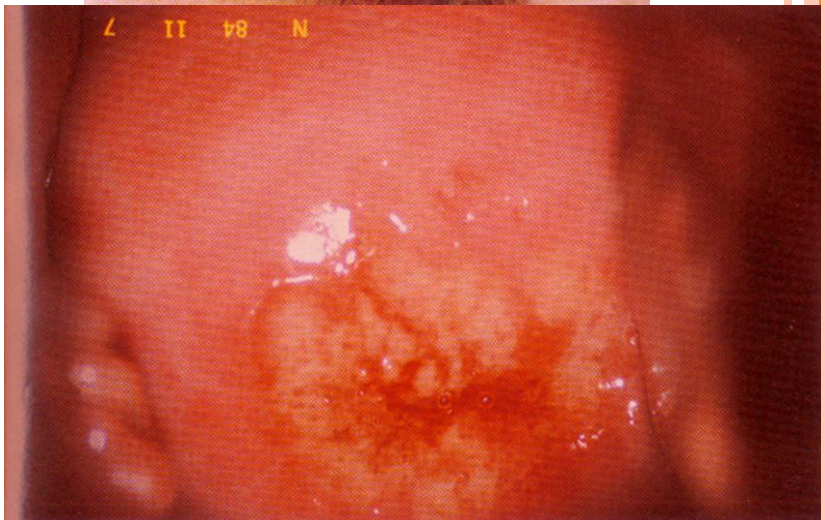


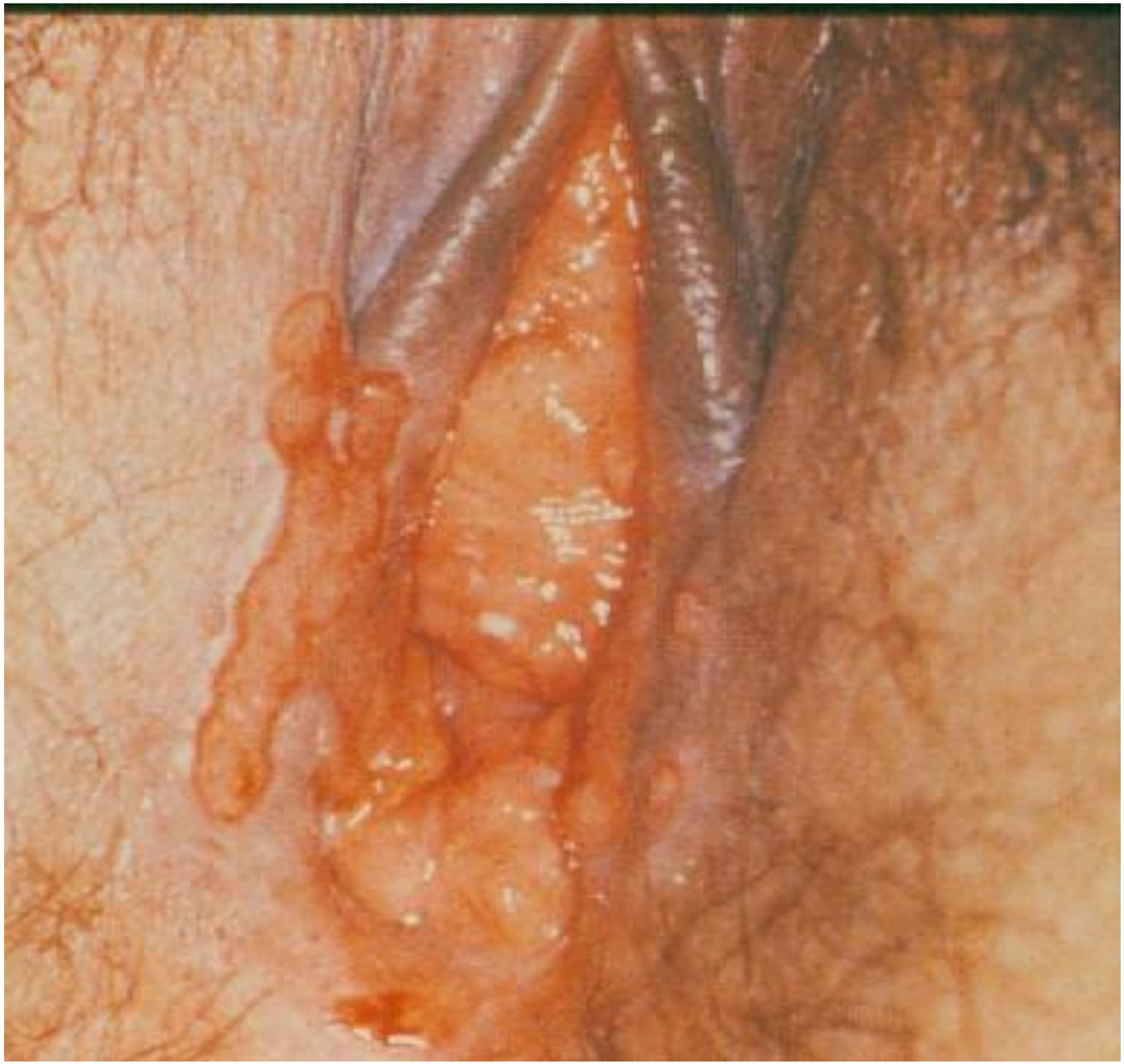
Herpes











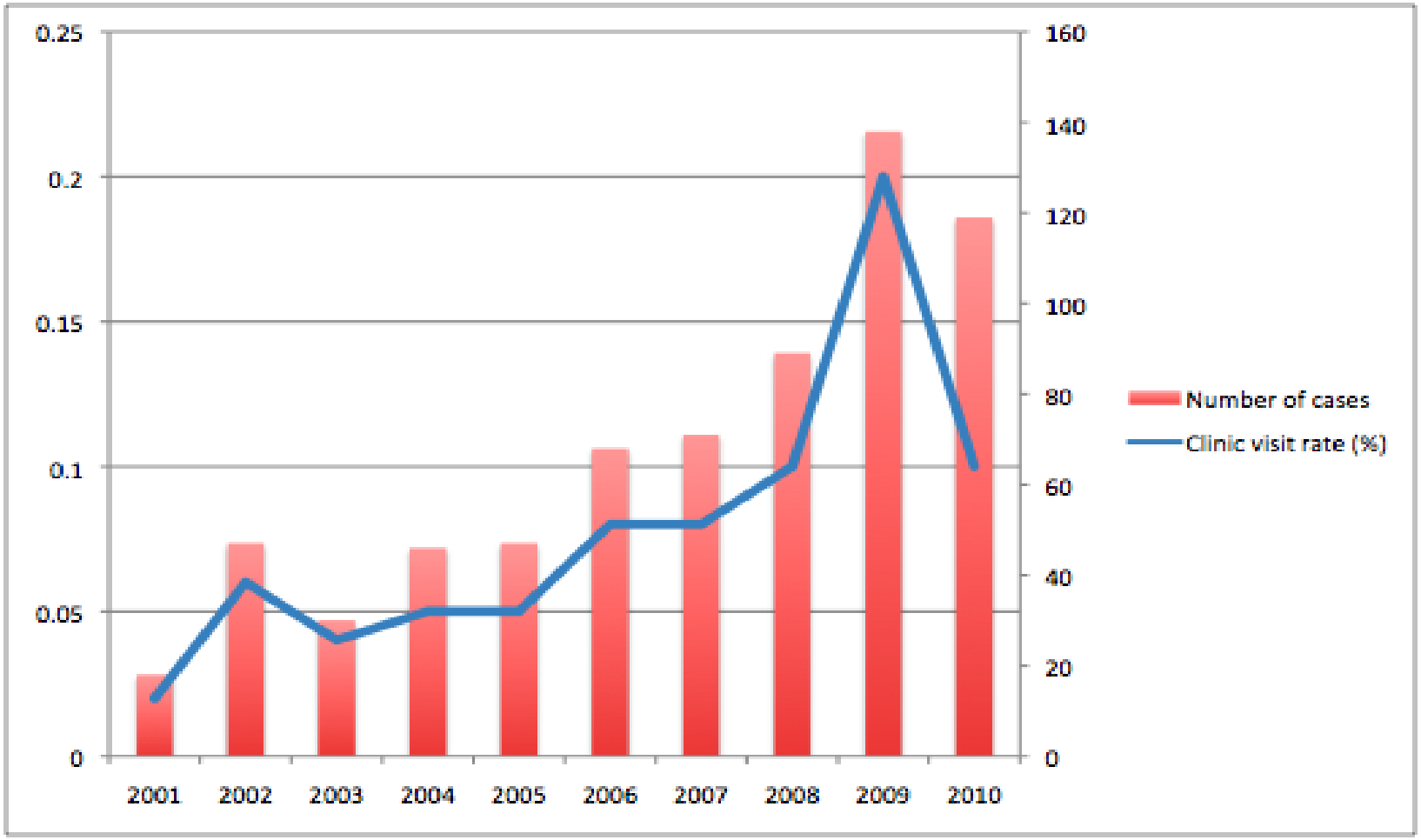
Old diseases and new technology:

Syphilis:

- 80% in males
- Mean age of 40 (17-81)
- Large increase in past 10 yrs

www.surv.esr.cri.cri.nz

Syphilis in NZ – past 10 years.



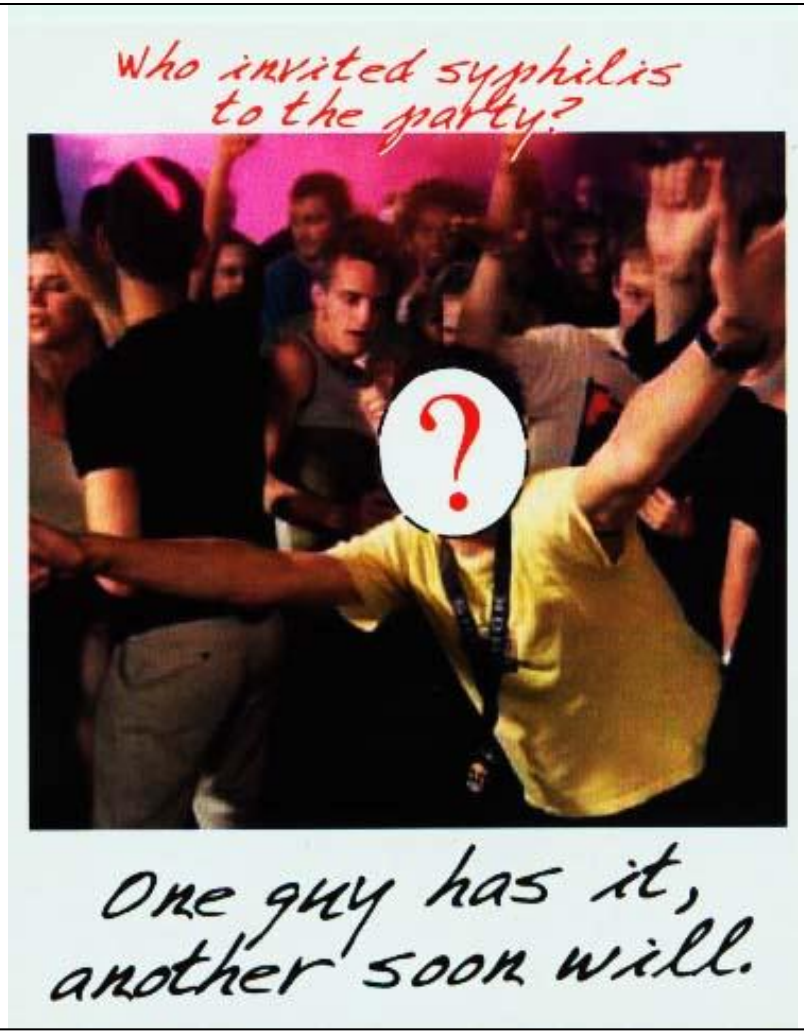
PART OF A WORLD WIDE TREND

Particularly at risk:

- younger HIV positive patients
- men who have sex with men.

Having syphilis = 2-5x risk for transmitting HIV

Challenge to find cases – have to think of syphilis to test for it.



Syphilis = Great mimic

- Different stages = different presentations
- Can involve just about every system in the body.
- Easily missed and difficult to diagnose and need to do the right tests.

STAGES OF SYPHILIS.

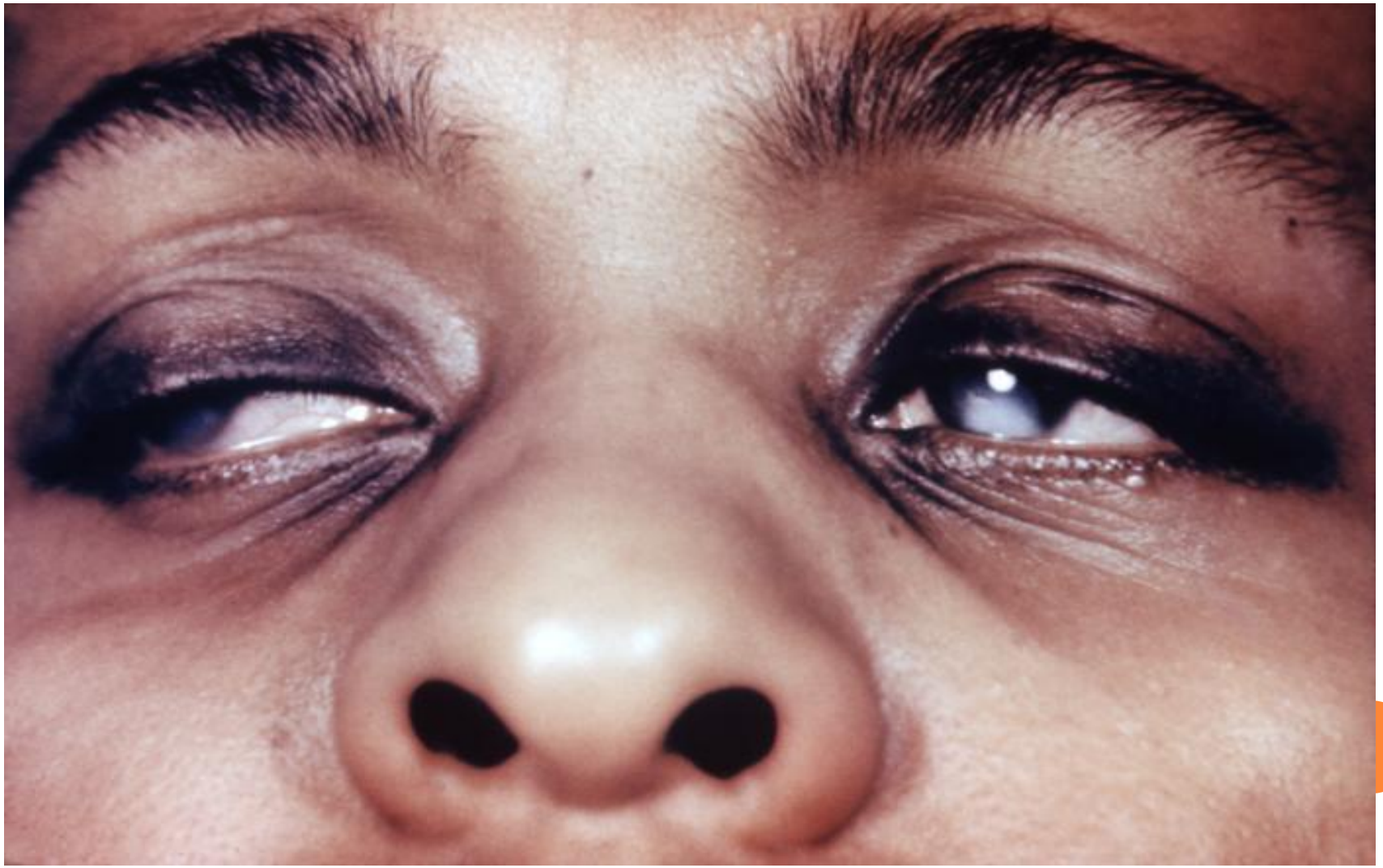
- **Infectious – first 1-2 years:**
  Includes primary, secondary and early latent.

- **Non-infectious (except in pregnancy) after 2 yrs:**
  Late latent (2-4 years after infection) and tertiary (5-20 years)- 30% progression.

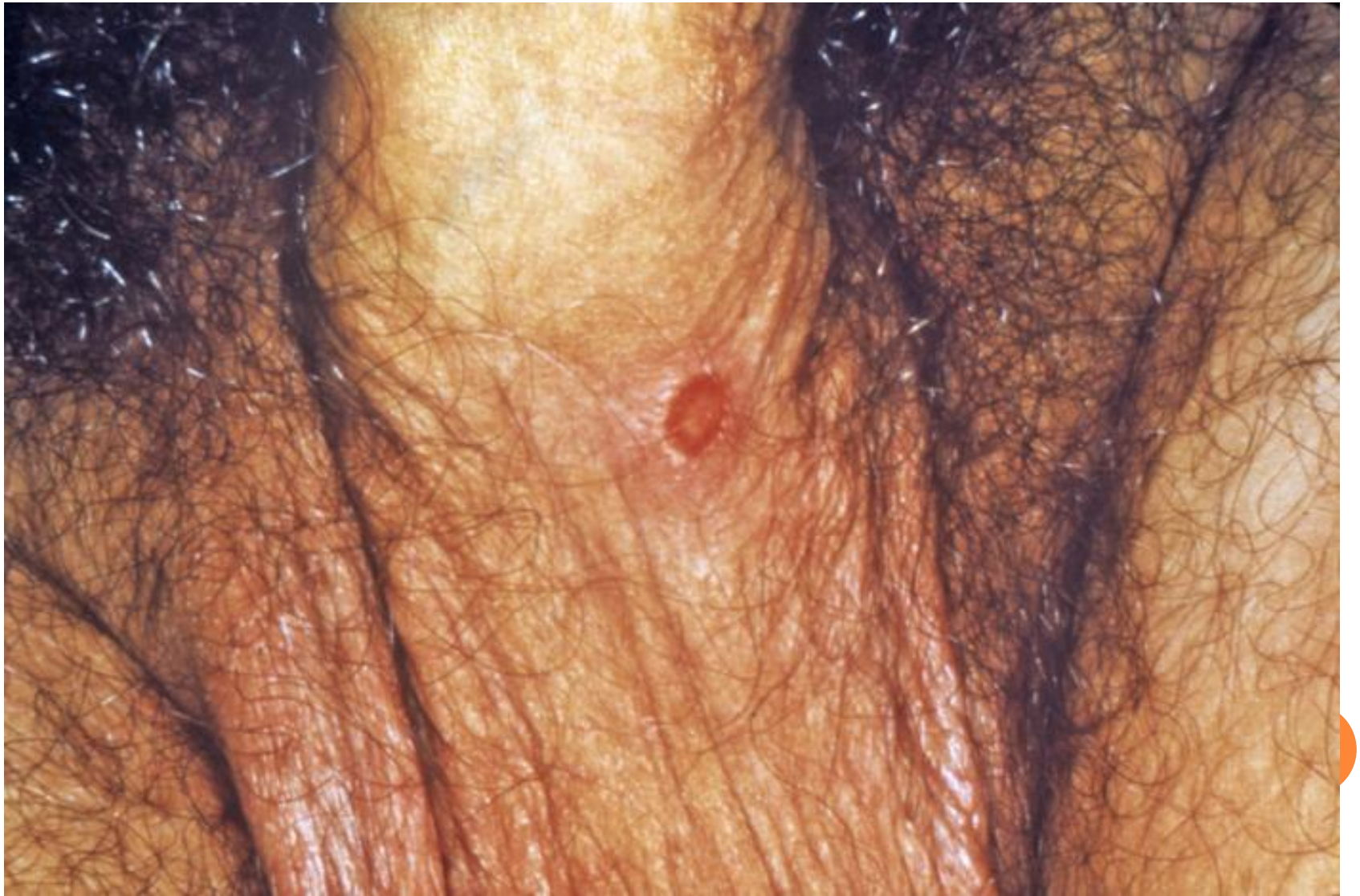
TRANSMISSION.

- Usually skin to skin – moist mucosa and microtrauma
- Rate of acquisition = 30%
- In pregnancy – mother can still infect the foetus for 4-5 yrs--- stillbirths, congenital syphilis.

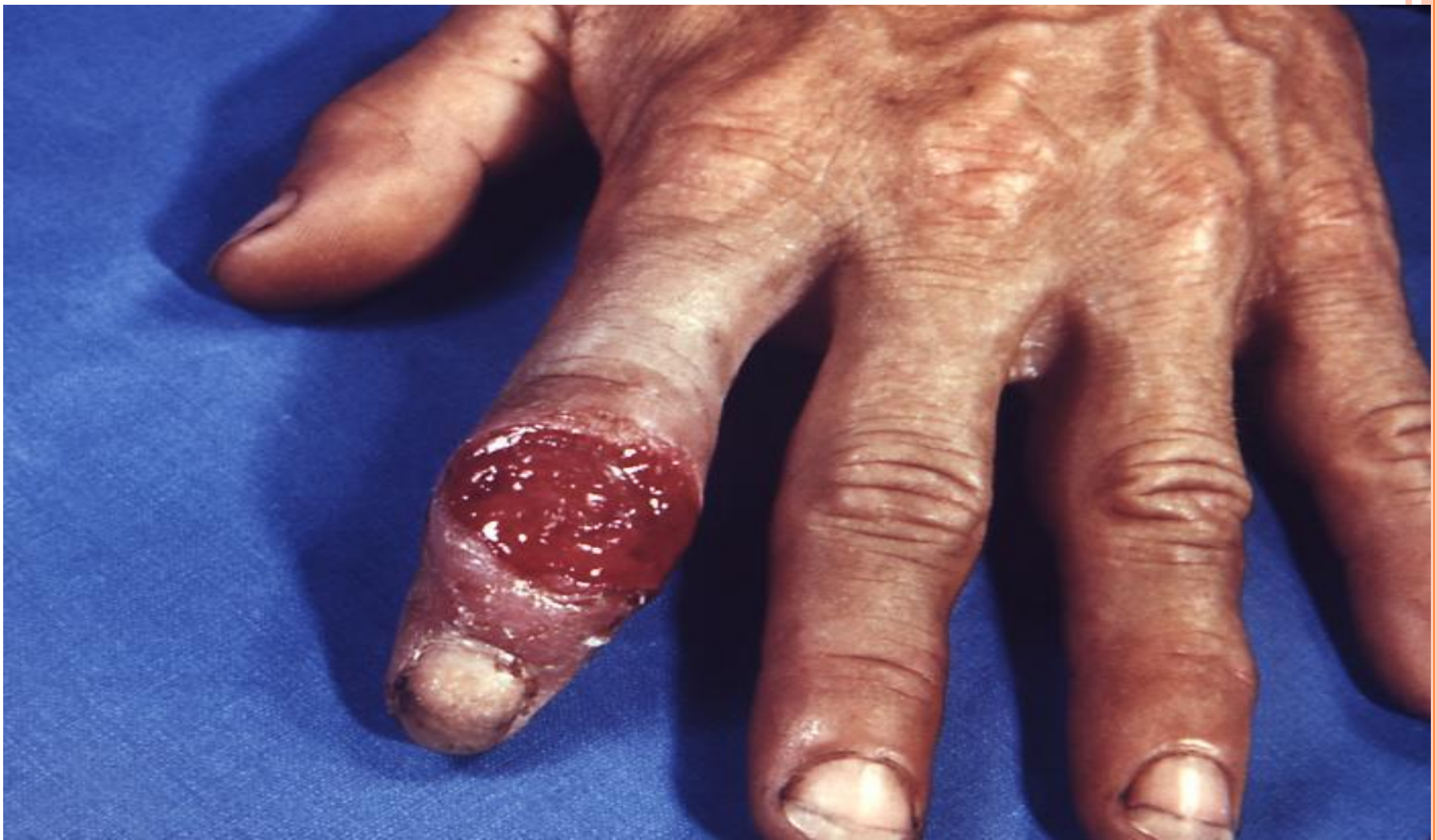
Congenital syphilis – keratitis.



Chancre



Chancres –not just in the genital area.



SECONDARY SYPHILIS:

- Chancre can heal or overlap with secondary syphilis

- <u>Huge range of presentations:</u>

-flu-like s+s: sore throat, fever, headache, malaise, gnl aches and pains

-wt loss

-lymphadenopathy

-rash – pc hands and feet

-mouth ulcers – coalesce to form snail track ulcers

-alopecia and hair thinning

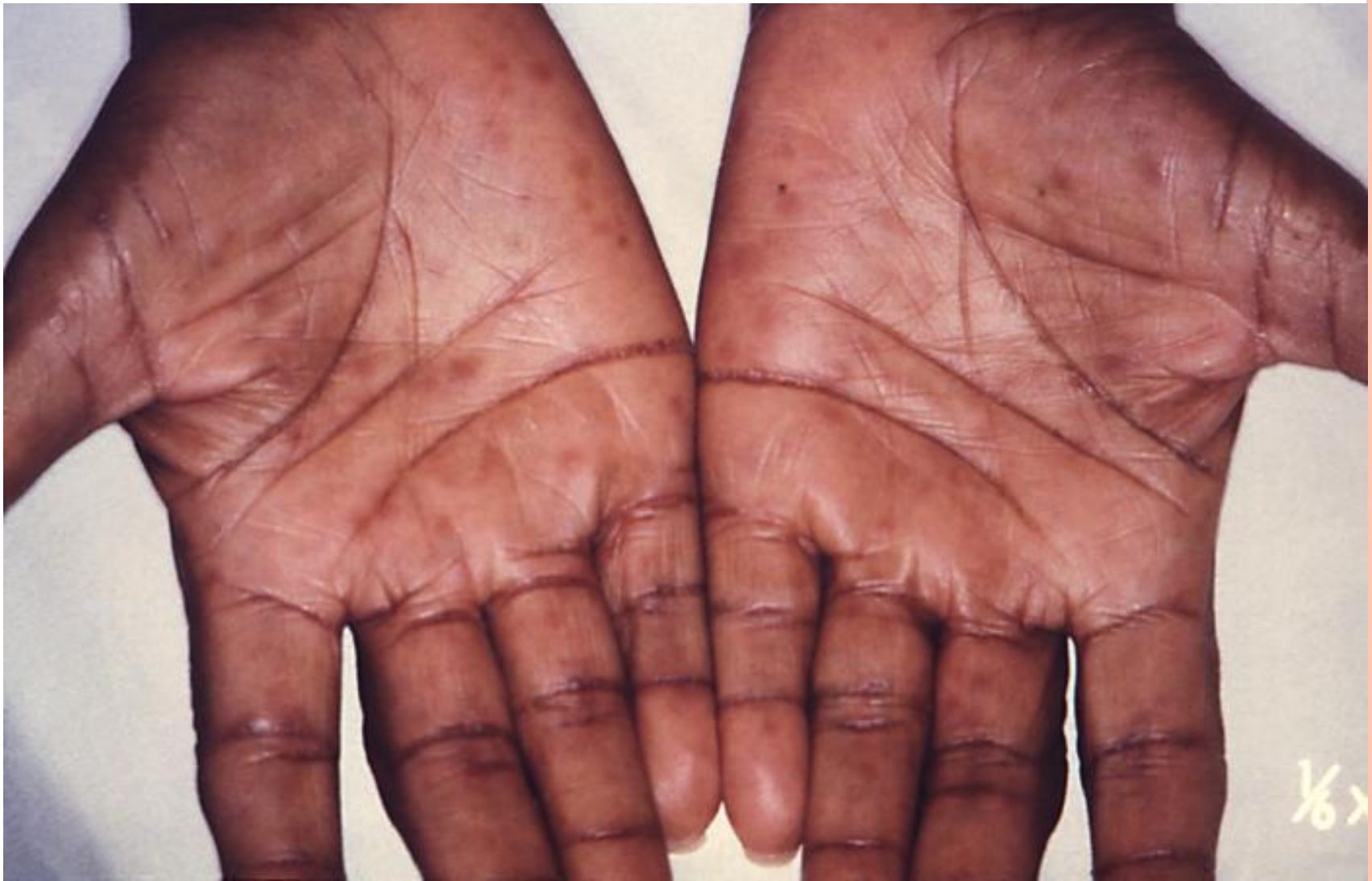
-hepatitis

-bursitis, osteitis, arthritis

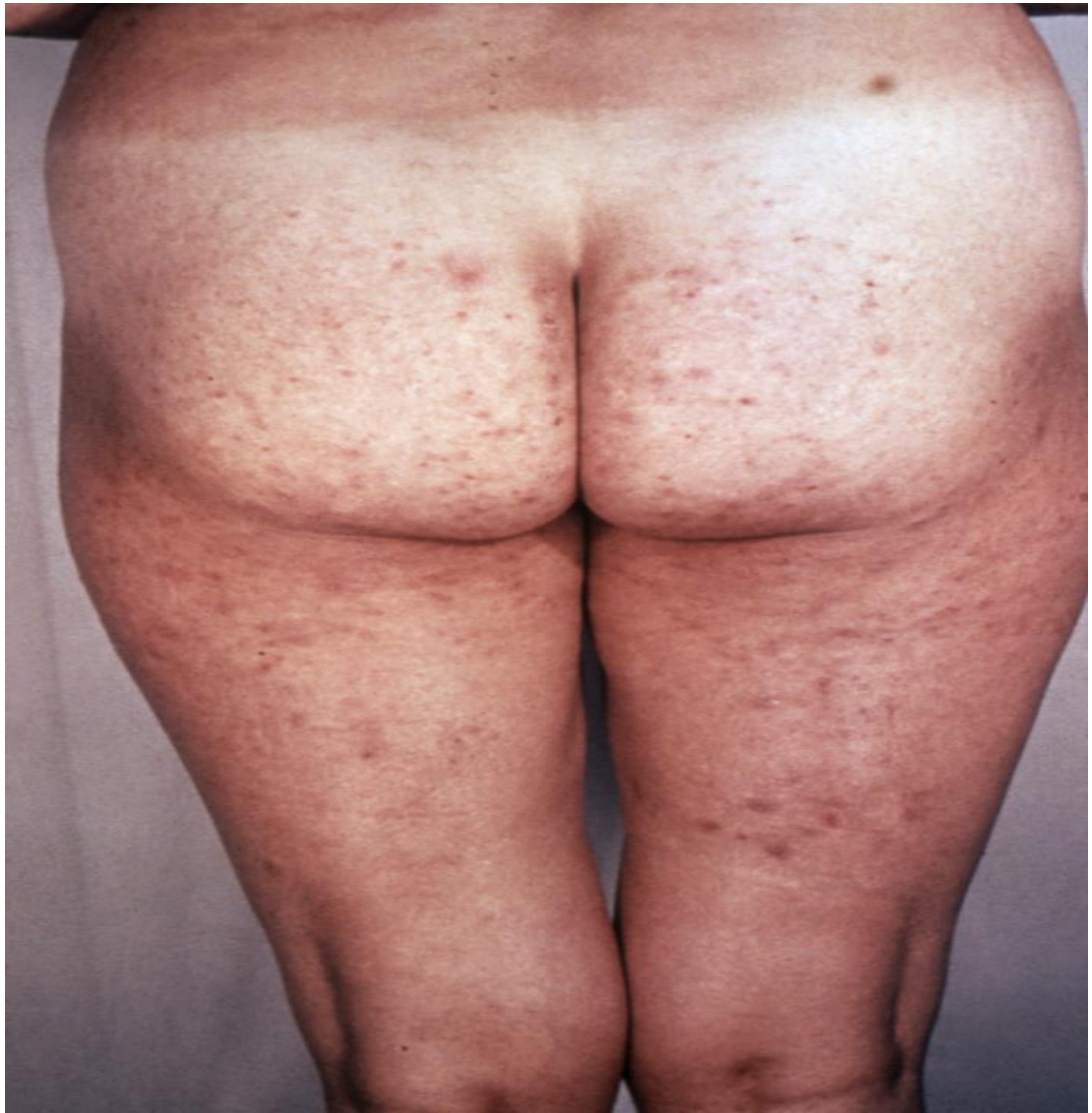
-uveitis, choroiditis

-nephrotic syndrome

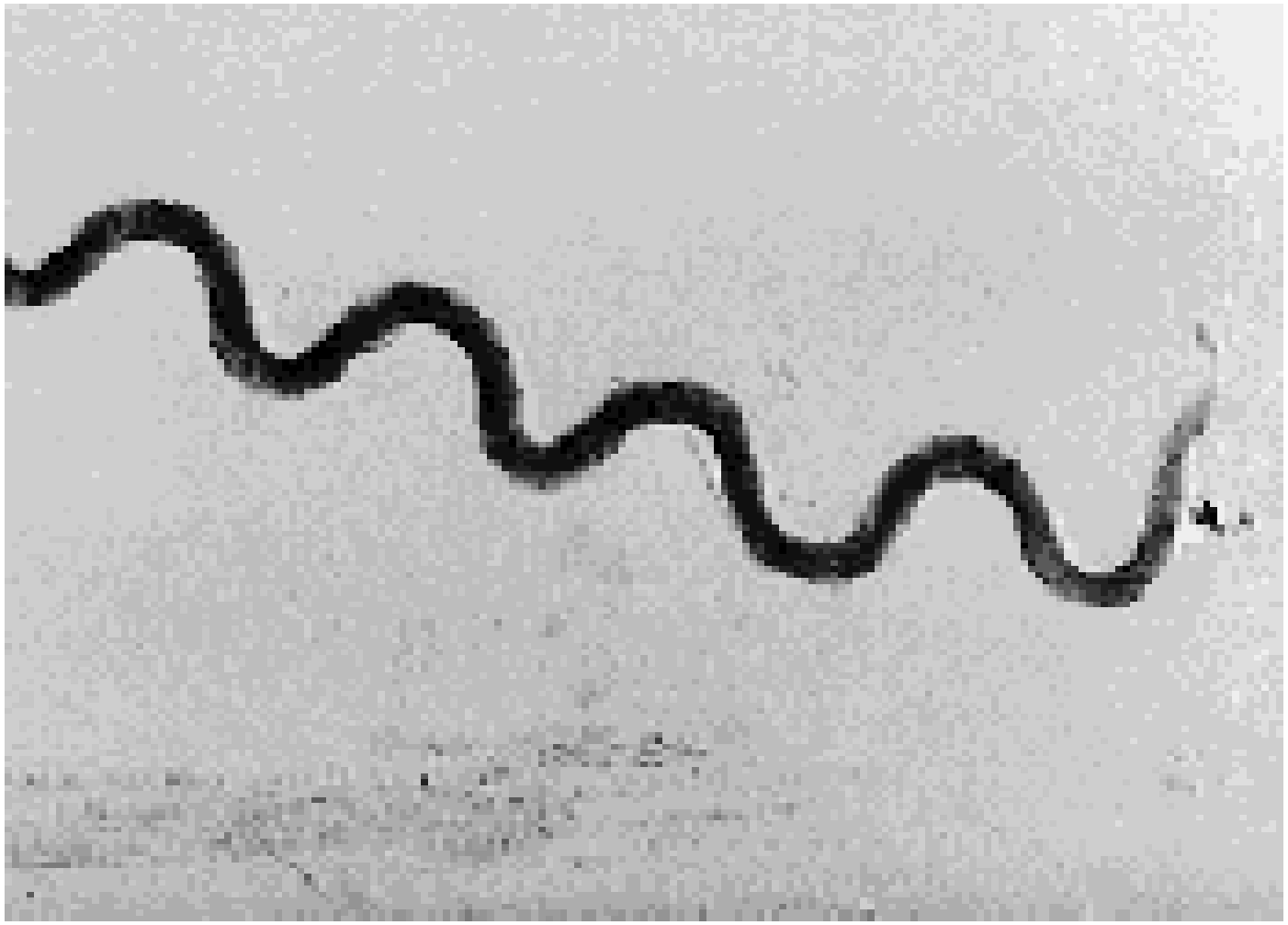
Rose pink rash on hands + feet.



Scabies or syphilis?



Treponema pallidum.



Syphilis serology

- Ask for "syphilis serology" + give clinical info.

- Specific tests:

--EIA – most sensitive + specific (IgM + IgG)

--Then RPR (non specific) + TPHA (specific treponemal test) titres

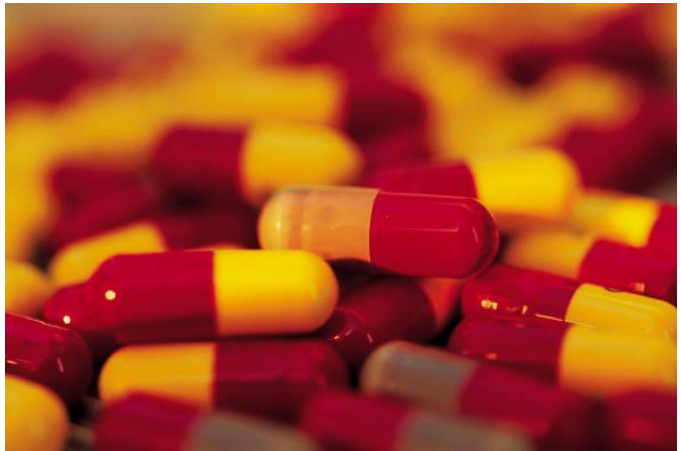
Can get biological false pos. – but then low titre.

Treatment.

- Benzathine penicillin G 2.4mu IMI
- Single injection if early syphilis ie < 1yr
- Weekly for 3 weeks for late latent and if in doubt.
- Doxy 100mg bd x 30 days if allergic to pen. but less successful.
- Follow up serology at 3m, 6m and 1 yr depending on stage, titres etc.
- Neurosyphilis – need aq. crystalline pen. IV x 10 days.
- If HIV positive, needs lumbar puncture + 3 injections.

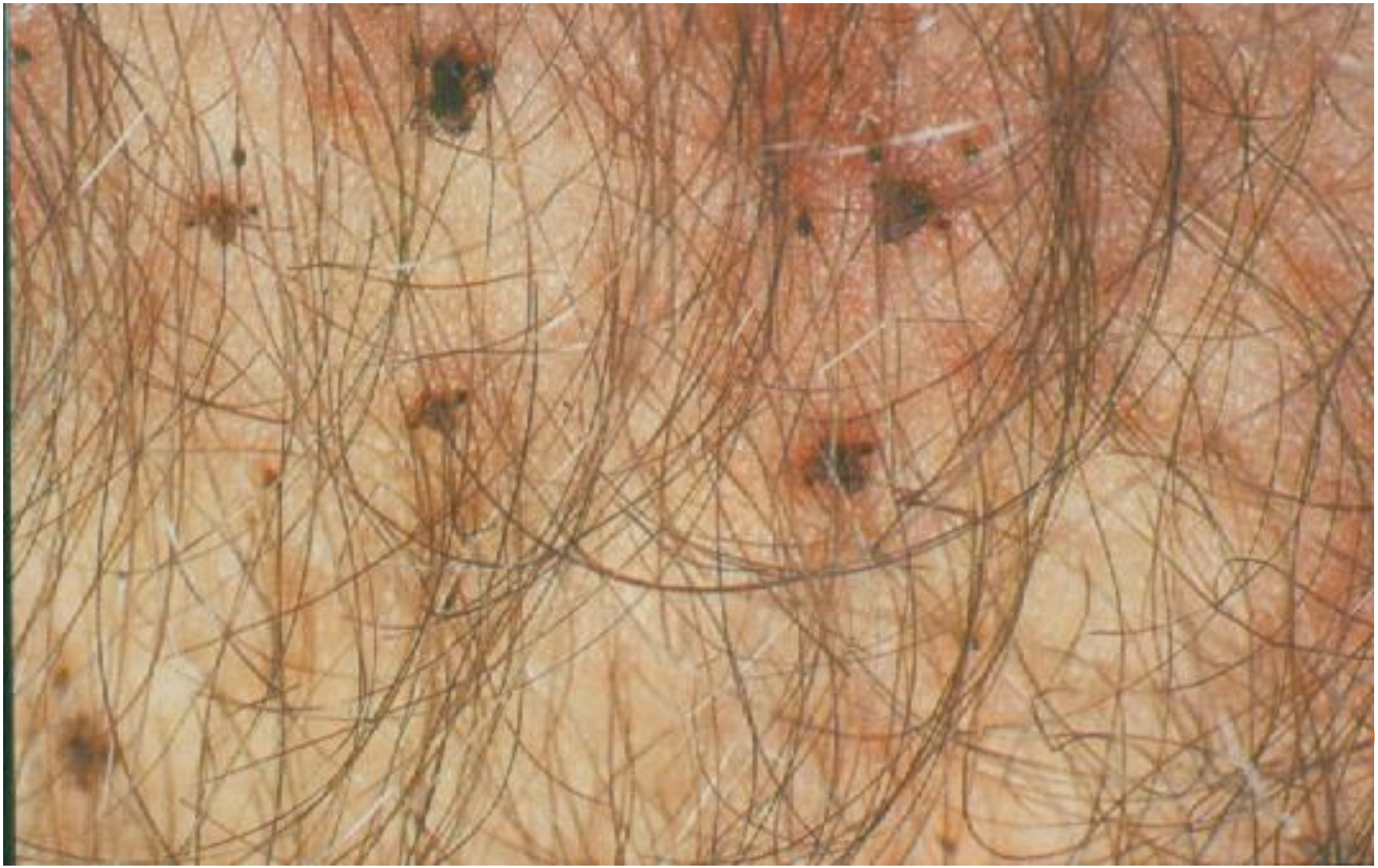
Non-specific urethritis (NSU):

- Defined as symptoms of urethritis (penile discharge, pain when urinating) but tests for Chlamydia and gono. = neg.
- Probably caused by mycoplasma genitalium, also by Haemophilus, adenoviruses. No test available.
- Rx clinically – azithromycin 1 g stat (85% clearance) or doxycycline 100mg bd x 10 days.



Pubic lice –

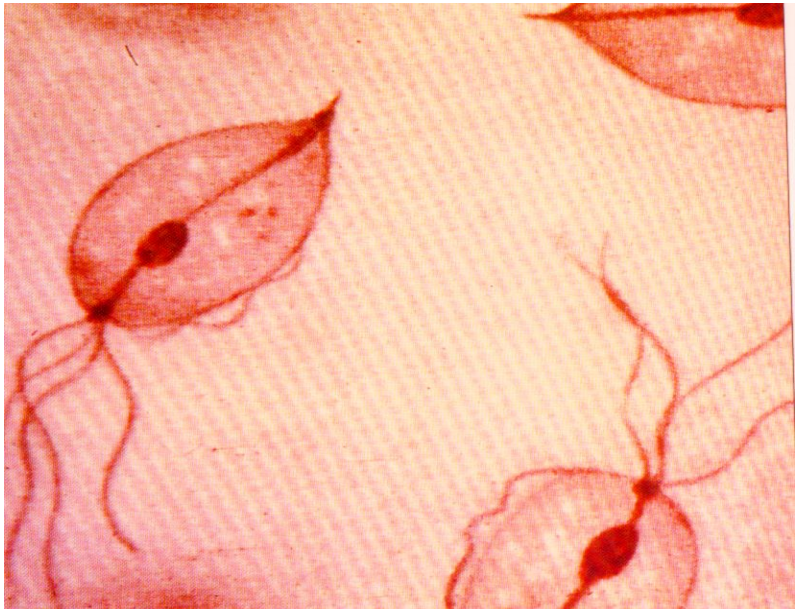
skin to skin contact.



Pubic lice –

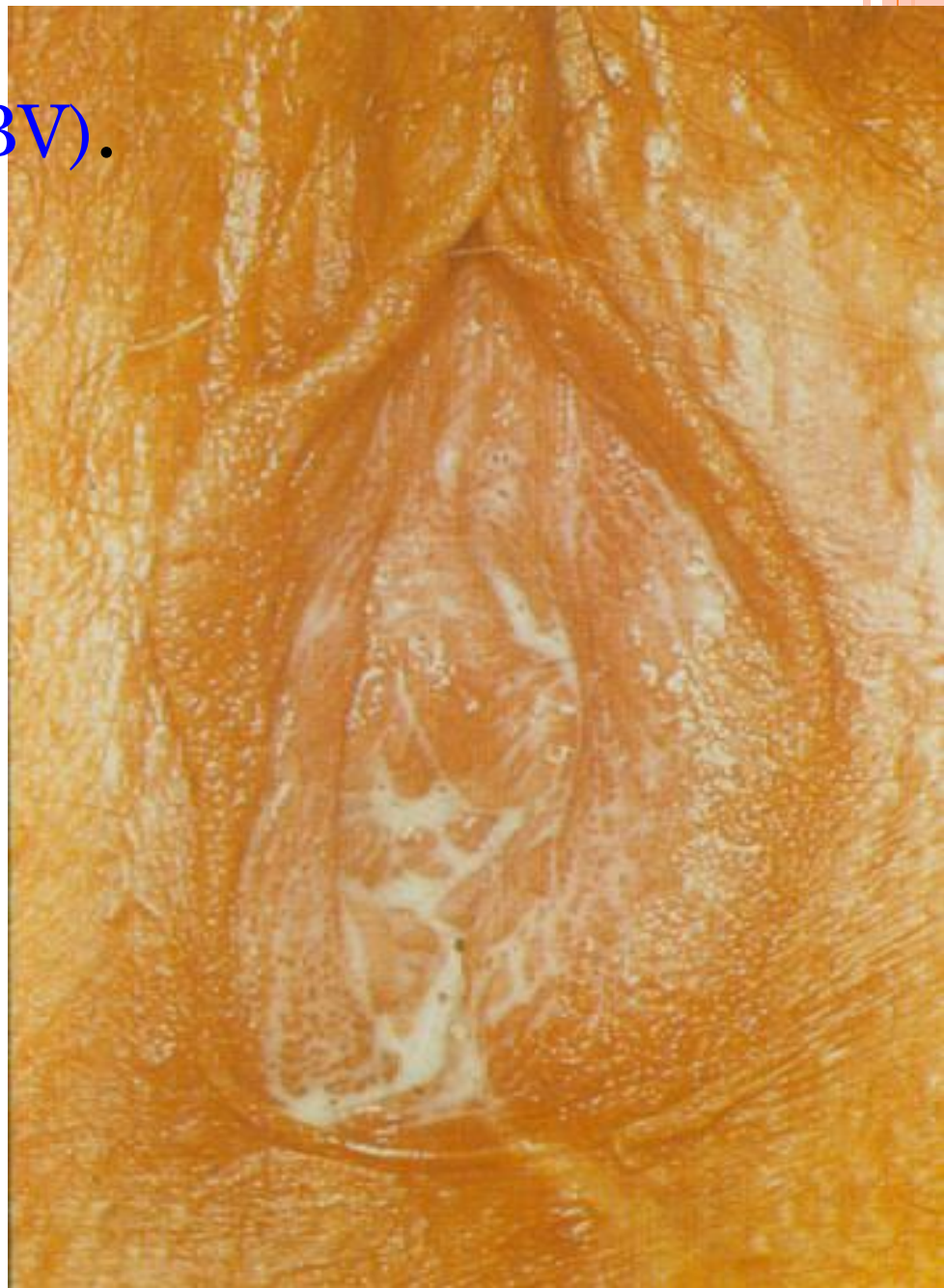
need to swing from hair to hair.

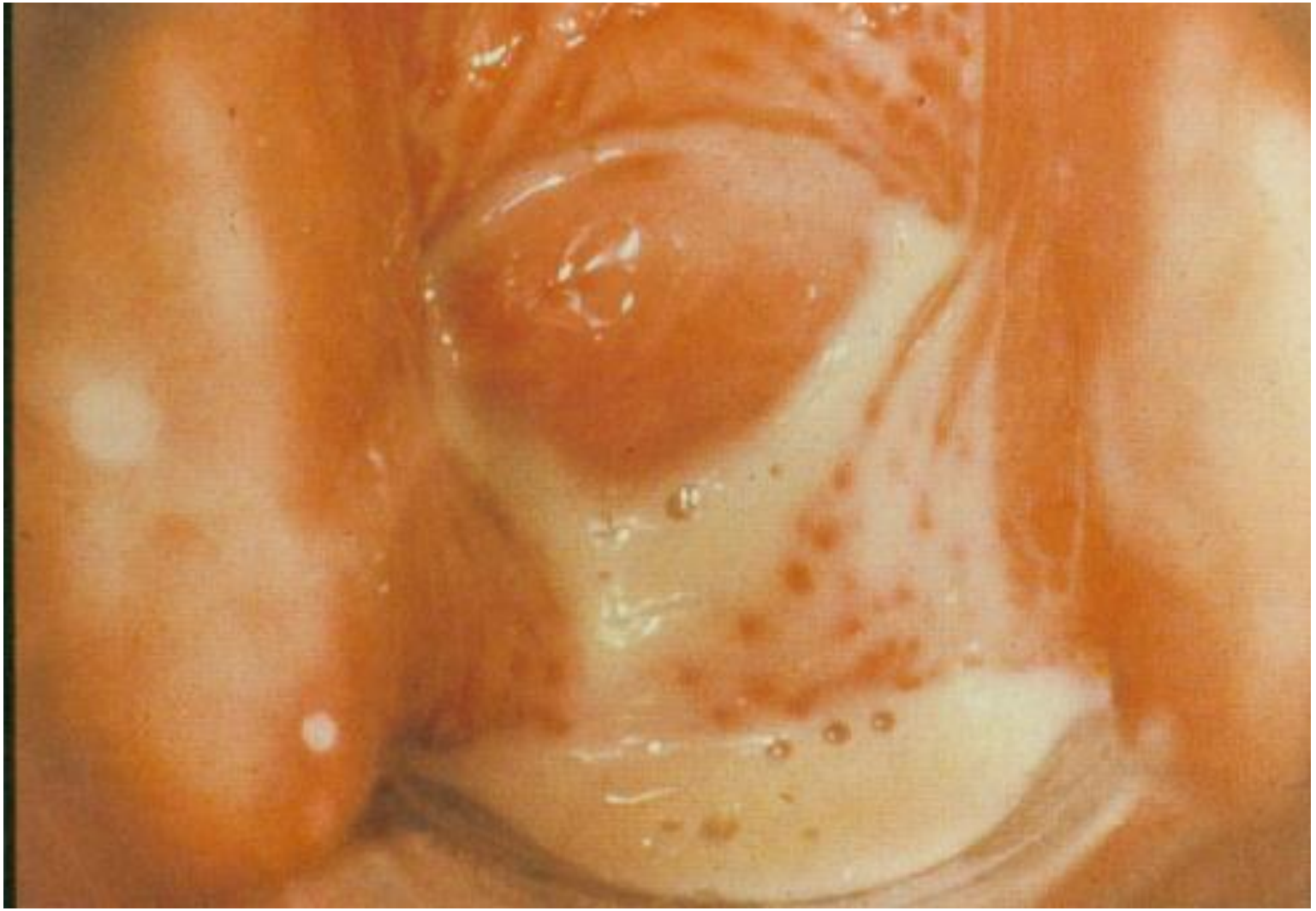
TRICHOMONAS – MAY BE SEEN ON SMEAR.



BACTERIAL VAGINOSIS (BV).

- = upset in the balance of bugs in the vagina- sexually associated
- Males don't pass it on and you don't catch it from them
- Treated sometimes – but often comes back.
- Caused by svl bugs eg Gardnerella – usually 6 main species in the vagina;
- With BV, abt 17 species (70 different in the vagina been described).





Complications of BV.

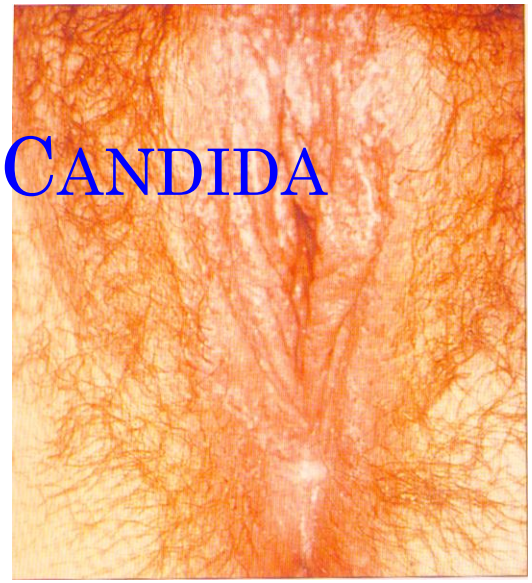
- PID including after abortion/miscarriage
- Post hysterectomy infections
- UTIs
- Preterm delivery
- Premature rupture of membranes
- Chorioamniotic infections
- Post partum or post-TOP endometritis
- Associated with increased HIV transmission

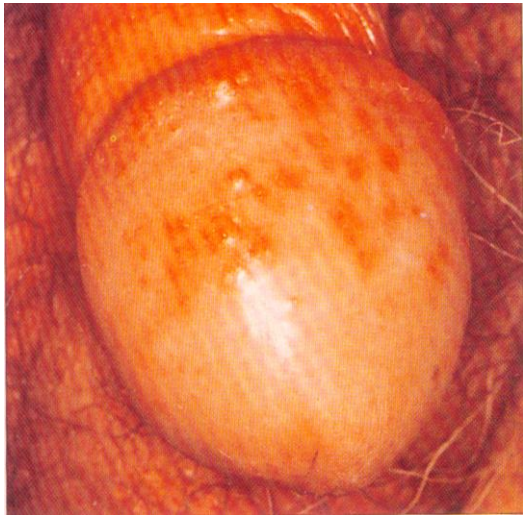
When to treat - No consensus. Personal view.

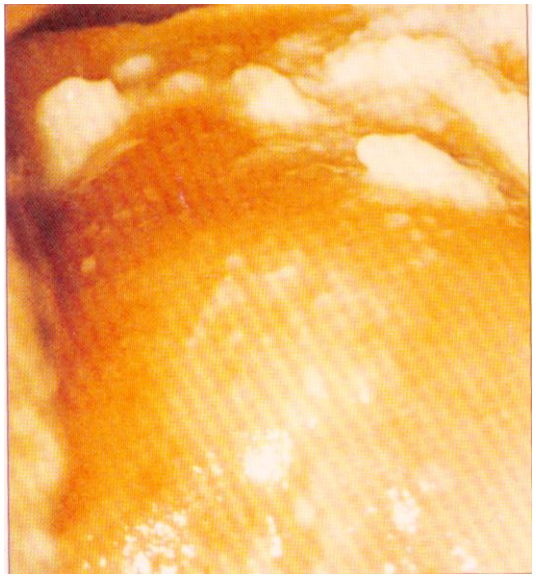
- Patient symptomatic eg malodorous discharge.

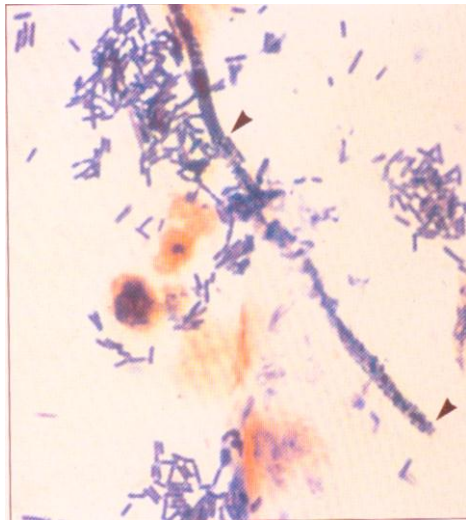
- High risk times:
  -- Pregnant
  -- Any gynae procedure eg IUD insertion, colposcopy, endometrial biospy.
  -- Abortion referral

CANDIDA









Treatment and partner notification.

- Listed in the handout – change with disease patterns, drug availability and resistance patterns.
- Don't forget to treat partners or tell them where to go testing and treatment.
- Ask advice from colleagues if not sure when or how to treat.

THE BUCK STOPS WITH --

The person who ordered the test

Condoms.

- Good at protecting from Chlamydia, HIV, trichomonas, gonorrhoea.
- Reasonably good at protecting against syphilis, hepatitis.
- Only partially successful at protecting against the skin-to-skin infections eg warts, herpes, scabies and pubic nits (lice).

Good things about condoms:

- Cheap (144 for $3 on prescription),
- Give reversible contraception
- Widely available
- Few side effects
- Involves no hormones
- Protect against a lot of STIs and pregnancy
- Can buy them or prescribe them for patients of any age or gender
- Can be fun and trendy with new flavours and styles + fun lubricants.

But they are not perfect:

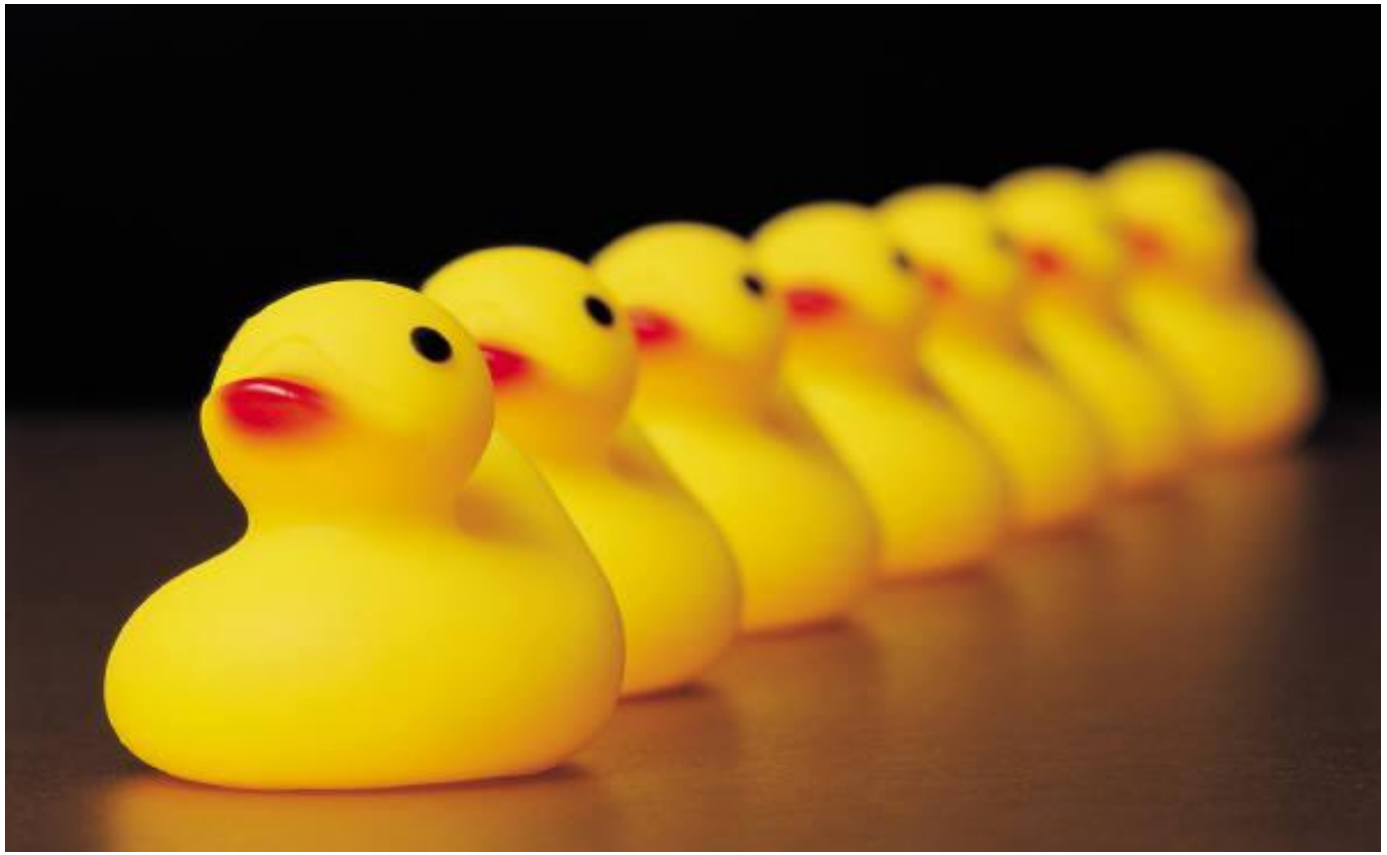
- Need to have easy access to them
- Need to practice using them to use them well
- Need to use them properly every time
- Need to use lubricant to reduce tearing
- Need to have confidence to insist the guy wears them – their partner's health depends on his cooperation

Condoms and your practice.

- Containers in the loos – particularly for adolescents.
- Have signed scripts for nurses + boxes to handout at every opportunity – 144 at a time available on MPS0.
- Give specific advice about use, disposing of them and the need for practice - can you put one on in the dark? Or when drunk?
- Stop worrying about wastage.

Being an adolescent-Friendly practice.

Remember what it was like to be 16?



What would you have wanted most out of your general practice?

- Accepting, non-judgemental attitude and environment –
- How do we translate that into practice

-friendly reception staff

-flexibility

-confidentiality

-greeted by name

Balance between chaos and control

- Adolescents like lots of choice – who they see, when, access to nurse, communicating eg txts.
- Appreciate their doctor being friendly – but don't try to be too cool. Humour can work but not irony or sarcasm.
- Youth-friendly magazines – get young people to suggest which ones they like.
- Youth-friendly environment – golden oldies vs heavy metal on the waiting room radio.

Tips for engaging adolescents

- Honesty.
- Be fair alongside being friendly
- Don't try to pretend what we're not
- Ask about their lives – HEADS
- Find safe subjects – eg computers and sport
- Normalise asking them about personal topics eg: "It is my usual practice to ask all young people abt…."

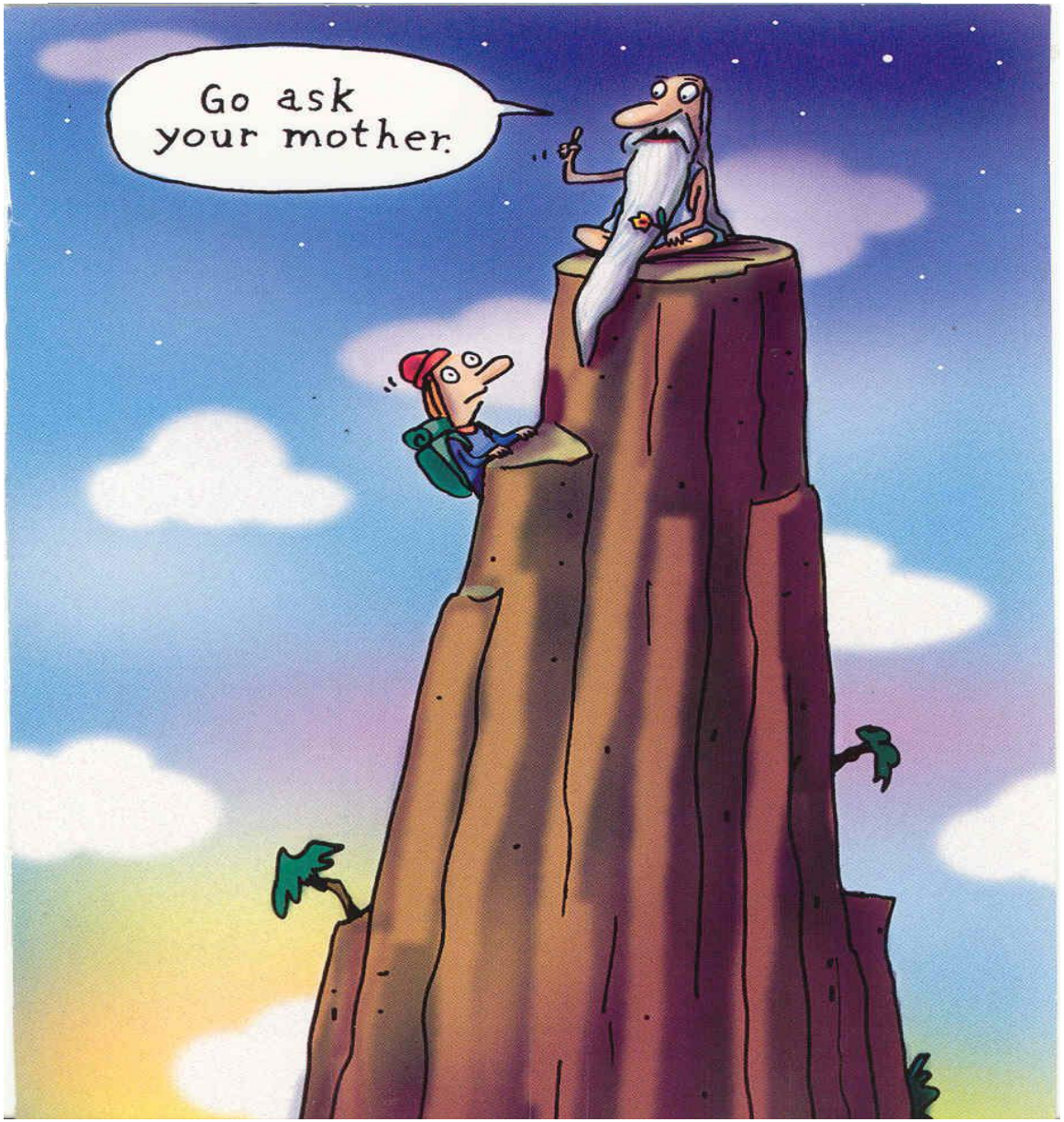
- Show respect and treat them as adults (even when behaviours may not have earned that status)
- Empathetic- we were all young/there at one time
- Let them you know you care but watch boundaries
- Mediate between their black and white view of life and the greys of reality.
- Don't fob them off – take their concerns seriously.

USEFUL WEBSITES:

- NZ Sexual Health Society – guidelines re diagnosis and management for 23 different sexually transmitted or sexually associated conditions:
  http://www.nzshs.org/guidelines.html
- Ministry of Health "No rubba, no hubba hubba campaign: **www.hubba.co.nz**,
- Family Planning of NZ **www.theword.org.nz**,
- Others: **www.sexfiles.co.nz**, **www.nzaf.org.nz**, **www.urge.org.nz**, **www.likeitis.org.uk/sex**, **www.ruthinking.co.uk**, www.playitsafe.co.uk, **www.pulse.christchurch.org.nz/drgoodlove**

- Good website regarding masturbation and what's normal: www.HealthyStrokes.com
- Southern DHB website under Health Providers, GP liaison www.southerndhb.govt.nz. Log in as: gpotago, password: letmein1, then under departments- Sexual Health.
- Chester Sexual Health Clinic – great pics and patient info section with good frequently asked questions section.www.chestersexualhealth.co.uk

Questions.



ADDENDA: SUMMARY OF SCREENING/TREATMENT/SEXUAL ABUSE RESOURCES.

Jill McIlraith, Dunedin Sexual Health Clinic. 03 470 9780.

- **Who to screen.**

* Under 25 year old
* More than one partner
* Not using any barrier method of contraception
* People with any signs or symptoms
* Pregnant women
* Sexual assault
* Sex when drunk

- **How to diagnose.**
- **Men**

Clinical examination for skin infections eg. warts/ herpes/ scabies/ pubic lice

Penile swab for gonorrhoea

First pass urine (15-20mls, having not urinated for an hour before) for Chlamydia

Bloods for HIV, Hep B + C, syphilis.

- **Women**

Clinical examination as for men

Endocervical swab for gonorrhoea. Cervical smear if due.

Either endocervical swab, or self administered vaginal swab or first pass urine for Chlamydia

Bloods for HIV, Hep B+C, syphilis.

Note: *For both, the minimum screening is to check for Chlamydia with a urine for men and a self-obtained swab or urine for women. If the patient has any symptoms, they should be examined and screening tests are no longer adequate.*

STI TREATMENTS.

1. **Chlamydia:** Azithromycin 1g (2 x 500mg) stat PO. Prescription needs to be endorsed 'certified condition'. Treat all partners and no sex for a week. No test of cure needed (except in pregnancy). Okay to use in pregnancy. Alternatives: Doxycycline 100mg bd x 10 days (if not pregnant) or Erythromycin 500mg bd x 10 days. Again no need for a test of cure, unless pregnant.
2. **Gonorrhoea:** Amoxycillin 3g stat (6 x 500mg) or Ciprofloxacin 500mg stat remain useful as pragmatic first choices **as long as** a culture is sent for sensitivity. Increasing penicillin or ciprofloxacin-resistance has meant that ceftriaxone, 500mg imi stat, has become increasingly the drug of choice. However it is only funded if the gonorrhoea is resistant to penicillin or ciprofloxacin and some patients are reluctant to have injections. It is available on MPSO if endorsed for use with drug resistant gonorrhoea. It is usually mixed with 2mls of 1% lignocaine. Always treat for Chlamydia as well, with Azithromycin 1g stat. Treat all partners. DO need a test of cure because resistance to drugs is quite variable.
   - If you cannot get a swab or the patient is unlikely to come back for follow up, ceftriaxone 500mg imi stat is the treatment of choice.
3. **Syphilis:** Depends if primary/secondary, late latent etc. Basic treatment is Benzathine penicillin 2.4mU IM, weekly for 3 weeks. Consult Sexual Health Clinic or infectious disease physician. Doxycycline 100mg bd x 30 days is alternative if allergic to penicillin but is not considered as good as benzathine penicillin.
4. **Genital Warts:** Liquid nitrogen, cheap and effective but painful. Can also use Imiquimod cream (Aldara) but expensive and so funded only when other methods such as liquid nitrogen and Condylline cannot be used or tolerated – need special authority number. Can also use Podophyllotoxin (Condyline) but absolutely contraindicated in pregnancy and pregnancy must be avoided for 3 months after use. Male partners also should not use it if the female is at risk or pregnancy.

5. **Herpes Simplex Virus:** Acute attacks or primary: Aciclovir 200mg 5 times a day x 5 days. Recurrent (4-6 per year) or severe attacks: Aciclovir 400mg bd x 1 year. See patient 3 monthly to review. Valaciclovir (Valtrex), 500mg once daily, is now available on special authority if the patient has been on acyclovir 400mg bd and has had more than 2 breakthrough attacks in 6 months.
6. **NSU:** Doxycycline 100mg bd PO x 10 days. May need longer, ie 3-4 weeks. Push fluids (non-alcoholic). Usually due

6. NSU: Doxycycline 100mg bd PO x 10 days. May need longer, ie 3-4 weeks. Push fluids (non-alcoholic). Usually due to mycoplasmas or ureaplasmas.

7. Trichomonas: Tinidazole or Metronidazole 2g stat. Risks of treating during pregnancy need to be considered but generally metronidazole considered safe in pregnancy. Treat partners. Avoid all alcohol for 48 hours after treatment and patient should not have drunk for 24 hours before taking it.

8 HIV: Refer to infectious disease physician. Always send a second blood sample to confirm a positive result. Always test for syphilis as well as increasing overlap between HIV and syphilis.

9.. PID: Azithromycin 1g stat and then Amoxycillin clavulanate (Augmentin) 500mg tds x 5 days. An alternative regime is Amoxycillin 3g stat or if allergic to penicillin, Ciprofloxacin 500mg stat with Metronidazole 2g stat and Azithromycin 1g stat. Give each one with a different meal as nausea is a common side effect. May need a longer course of imidazoles eg. one week.

Note: *If severe or you have concerns, consult gynaecologist without delay, some patients may require admission.*

10. Pubic Lice: Malathion liquid (Derbac-M) or Gamma benzene hexachloride (Benhex) lotion (both funded) are first line choices. Permethrin (Lyderm) cream should only be used a second line.

11. Scabies: Malathion (Derbac-M) and Gamma benzene hexachloride (Benhex) are both funded and used as first line. Some resistance is appearing to Derbac. Permethrin (Lyderm) is used as second line if the scabies is resistant.

Note: *These topical parasiticidal preparations are effective against both conditions.*

12. Bacterial Vaginosis: Metronidazole 400mg bd x 7 days = significantly more effective that the 2g stat dose. Use the stat dose only if patients can't comply with the week long dose. Remains controversial when to treat but do so in pregnancy only if symptoms moderate to severe and benefits are likely to outweigh risks, or going to have any invasive pelvic procedure eg. termination of pregnancy, IUCD insertion, colposcopic examination and biopsy.

Use of condoms for a month may reduce recurrences and a 14 day course may also be useful for recurrent BV.

No evidence to show that treating male partners will reduce recurrence.

13. Candida: Clotrimazole vaginal cream or pessaries (Clomazol 1% and 2%) vaginal cream is effective and has been shown to be safe for use with condoms). Nystatin vaginal cream is also fully funded. Fluconazole 150mg stat PO can be used but is not funded if prescribed by a GP but is still relatively cheap – less than $10 at most pharmacies.

Note for STIs such as Chlamydia, gonorrhoea, syphilis, scabies, pubic lice: *Try to treat as many partners as possible. Give the patient written information to take with them. Discuss how they can tell their partners and where they can go for treatment. Consider partner-delivered medicine or prescription, particularly for Chlamydia.*

Sexual abuse resources.

- DSAC website: www.dsac.org.nz
- DSAC doctors and nurses in your area:

  -Wanaka – Suzie Meyer and Lucy O'Hagen (Aspiring)

  -Queenstown – Kathryn Smith and RN Sharon Fyfe

  -Gore- Glenys Weir and Lynley Brown

  -Invercargill – Sandra Rhind and Caroline Corkill + RNs Judith Wilson and Sue Ballam (Victoria Med Centre)

  -Dunedin great area: Penny Kagan, Annemarie Tangney, Jackie Hughes and Jill McIlraith (Aurora Health Centre)
- Also:

Your local police

Christchurch SAATS service – 24 hour advice 03 366 0067.

Dunedin Sexual Health Clinic 03 470 9780

Dunedin DSAC roster – held at Dunedin CIB police (03 471 4800) and Dunedin Urgent Doctors (03 479 2900)

Children ie prepubertal,<14, not started periods– contact Paeds at Dunedin Hospital.