

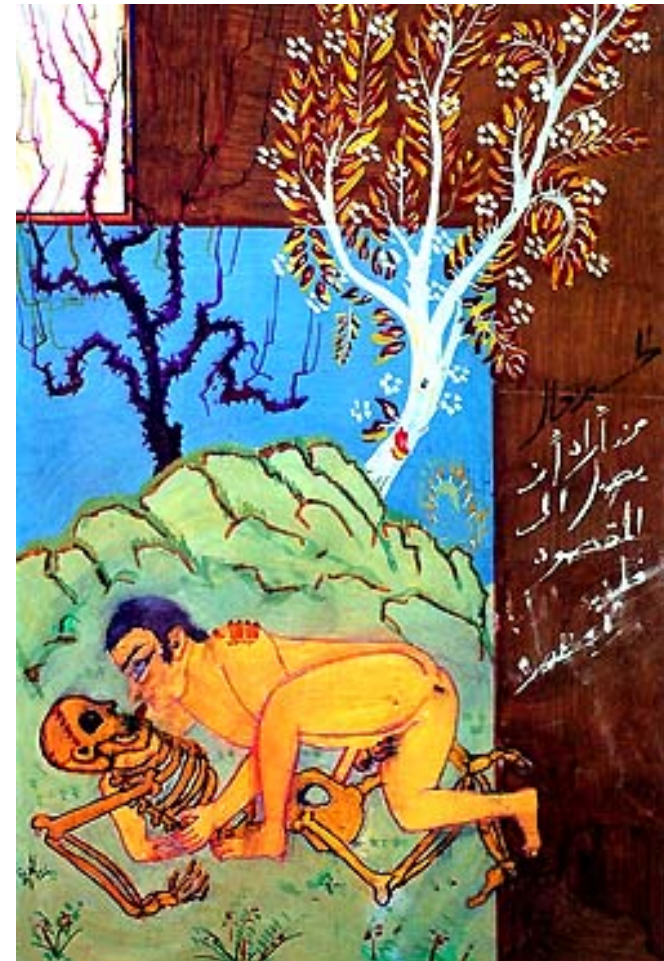


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Reviewing Sexual Health and HIV

NM2715





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Learning objectives

- To observe and learn from a case study. What happens to a couple who attend a GUM clinic, for screening and subsequent treatment?
- Revision of how STIs are transmitted
- To be able to relate screening to sexual history
- To analyse why treatment fails
- To examine potential implications of unprotected sexual intercourse



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**Number of new diagnoses of selected STIs,
GUM clinics, United Kingdom: 2008**

% change

	2008	2007-2008	1999-2008
Chlamydia	123,08	1%	116%
Genital warts	92,525	3%	29%
Genital herpes	28,957	10%	65%
Gonorrhoea	16,629	- 11%	1%
Syphilis	2,524	- 4%	1,032%



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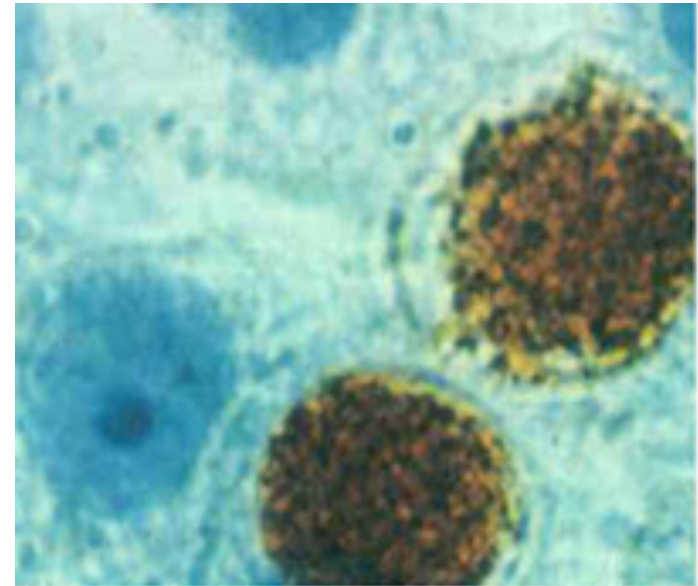
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The tale of Sally and Paul

- They are a couple who have been together for two years
- Paul went to a friend's Stag Party in Prague 8 weeks ago
- He had unprotected sexual intercourse with a casual acquaintance
- He came back home and had unprotected intercourse with Sally
- Now he has developed symptoms.....

Paul has.....Chlamydia

- Chlamydia is the most common STI.
- It is caused by a bacteria – chlamydia trachomatis.
- In 2008 there were 123,008 cases diagnosed in England, Wales and Northern Ireland a 4% rise over the previous year
- Females aged 16-19 and males aged 20-24 are most at risk





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- Paul has a urethral discharge
- 70% of men and 50% of women initially have no symptoms.
- Most common symptom is a clear discharge from the urethra.
- There can be a burning sensation when urinating.

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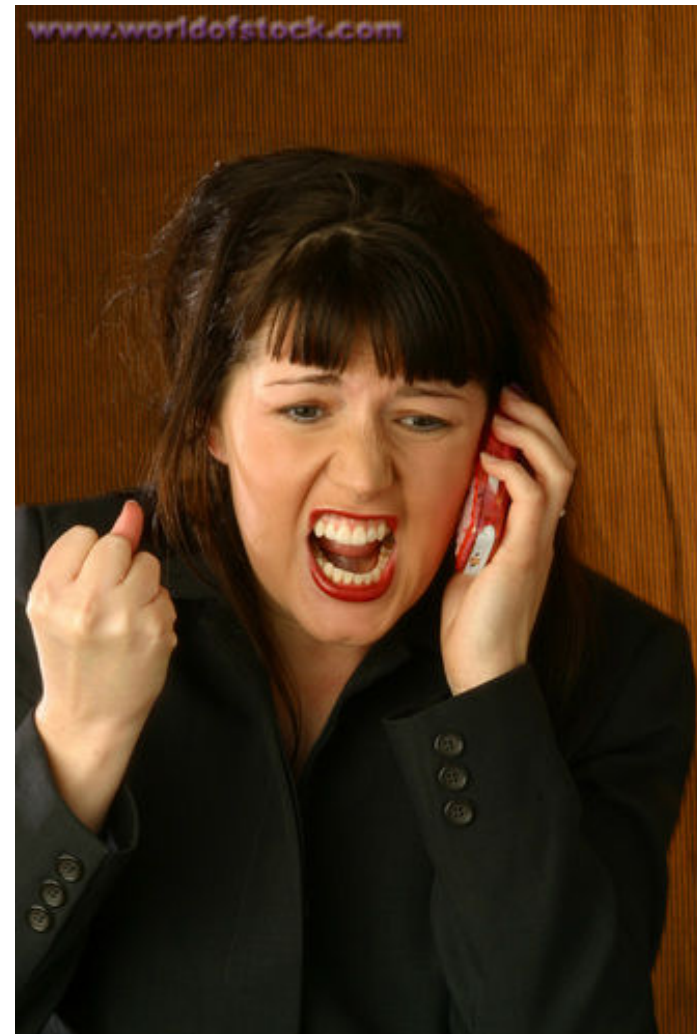


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Sally is informed by Paul that she needs a check up

- Paul contacts Sally and confesses his misdemeanour
- The couple arrange to attend a GUM clinic together for screening and treatment
- Sally has had pelvic discomfort for a week
- She is not very happy.....





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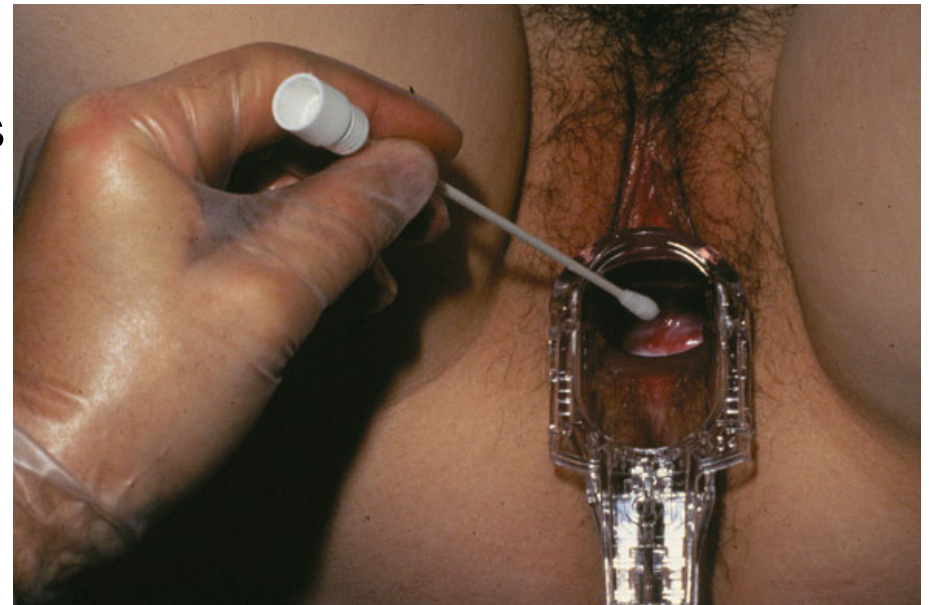
At the clinic Paul has his sexual history taken.....

- Paul undergoes a full sexual health screen after disclosing his recent history.
- He is advised to have an HIV test in a month's time, some 12 weeks after having had sex in Prague, to screen for HIV antibodies



Paul and Sally are screened for STIs

- On examination, Paul is symptomatic, with a urethral discharge. Sally has been suffering from pelvic pain
- Swabs will be sent to a laboratory for culture and sensitivity.
- In the meantime, the Dr has decided to treat the couple on an epidemiological basis – because of signs and symptoms indicative of Chlamydia





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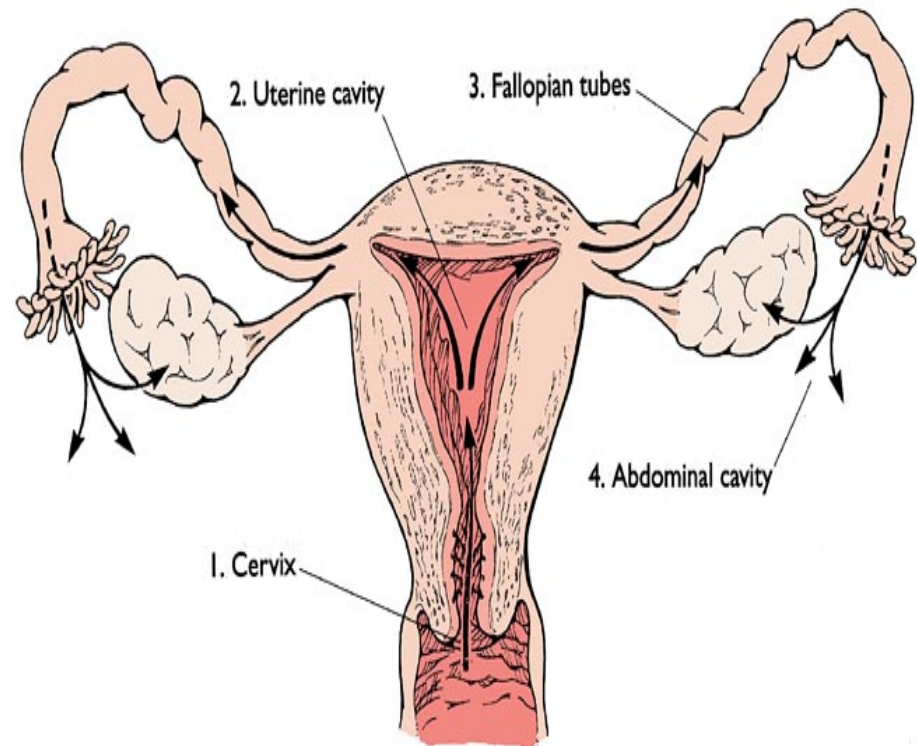
Treating Chlamydia

- Treatments for chlamydia are quick easy and effective. However, problems arise with compliance particularly amongst asymptomatic patients
- Doxycycline tablets 100mg bd for 1 week
- Alternatively, if there are likely to be problems with patient compliance, Azythromycin 1g stat given in clinic.
- Sexual partners need to be treated prior to further intercourse, to break the cycle of re-infection.



Complications of Chlamydia

- Pelvic inflammatory disease (PID) can result from ascending chlamydial infections.
- Inflammation of the endometrium, fallopian tubes and ovaries may result.
- Consequently there is the risk of infertility or even ectopic pregnancies.



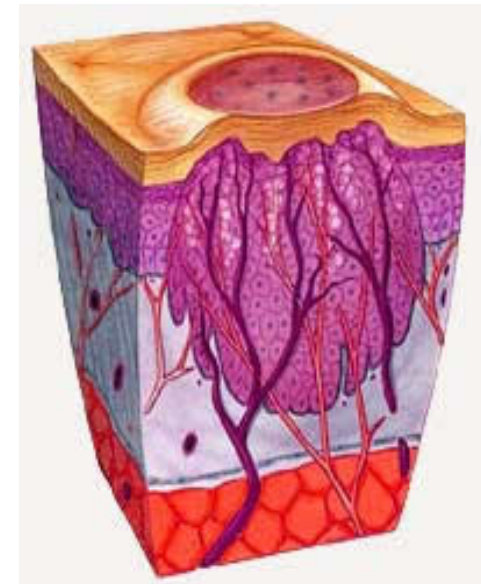


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Sally is also found to have Genital Warts

- Caused by Human Papilloma Virus (HPV)
- Many subtypes of HPV
- Types 6 & 11 responsible for >90% of genital warts
- Types 16 & 18 associated with cervical cancer



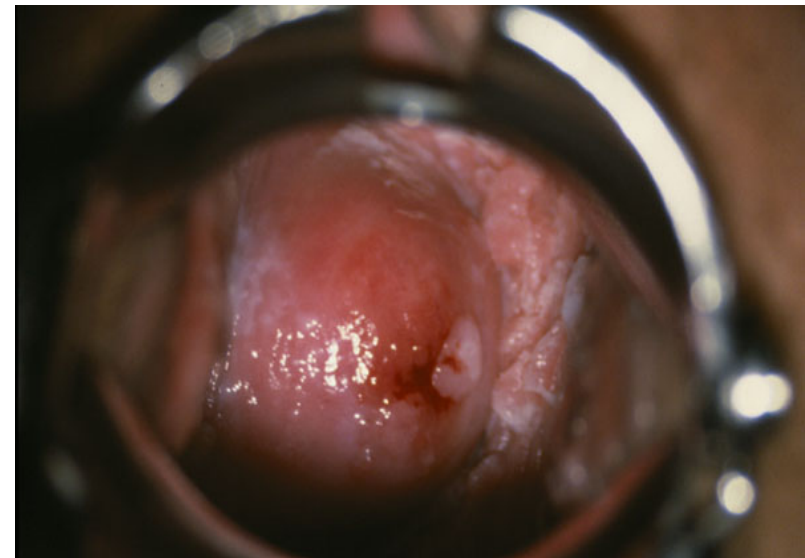


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Sally's cervix

- Genital warts, are the most common viral STI.
- The cervix is the most common site of HPV infection in women.
- Cervical warts generally appear as cauliflower-like lesions. A biopsy during colposcopy will confirm the diagnosis.





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Vulval Warts and Penile Warts





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Preventing and Treating Genital Warts

- A vaccine to prevent prevent genital warts is becoming available

In the meantime

- A topical drug, Podophyllotoxin, can be applied directly to the wart, either in clinic or at home
- Warts can also be treated by cryotherapy, the application of liquid nitrogen which destroys the wart by freezing it.
- Large warts can be removed by surgery.



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And Paul and Sally lived happily ever-after....?

- Remember – all sexual partners need to be treated in order to break the cycle of infection
- All partners need to comply with treatment
- Not all infections are curable, viral infections in particular, are difficult to treat
- Did Paul and Sally remember to return to clinic for an HIV test?



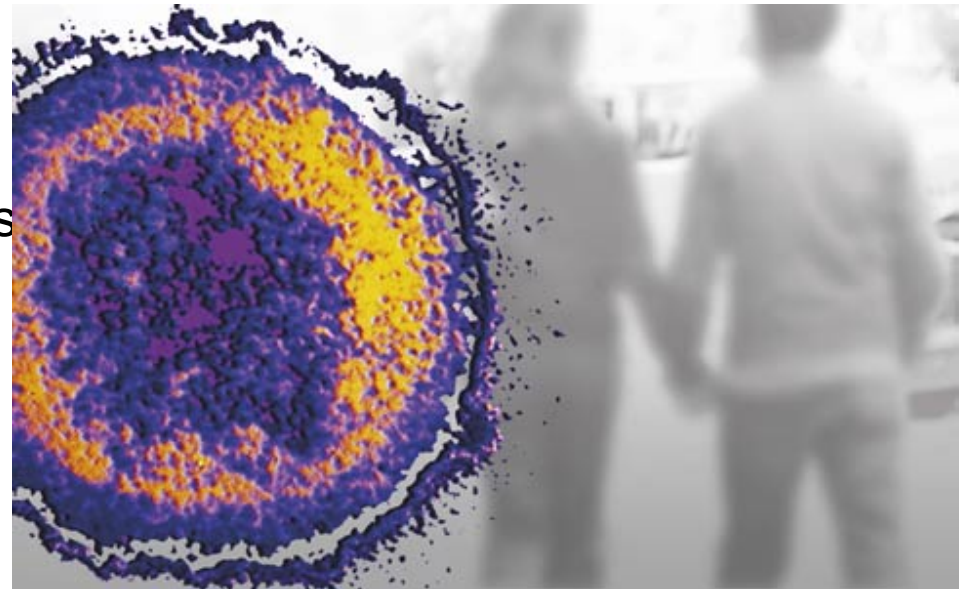


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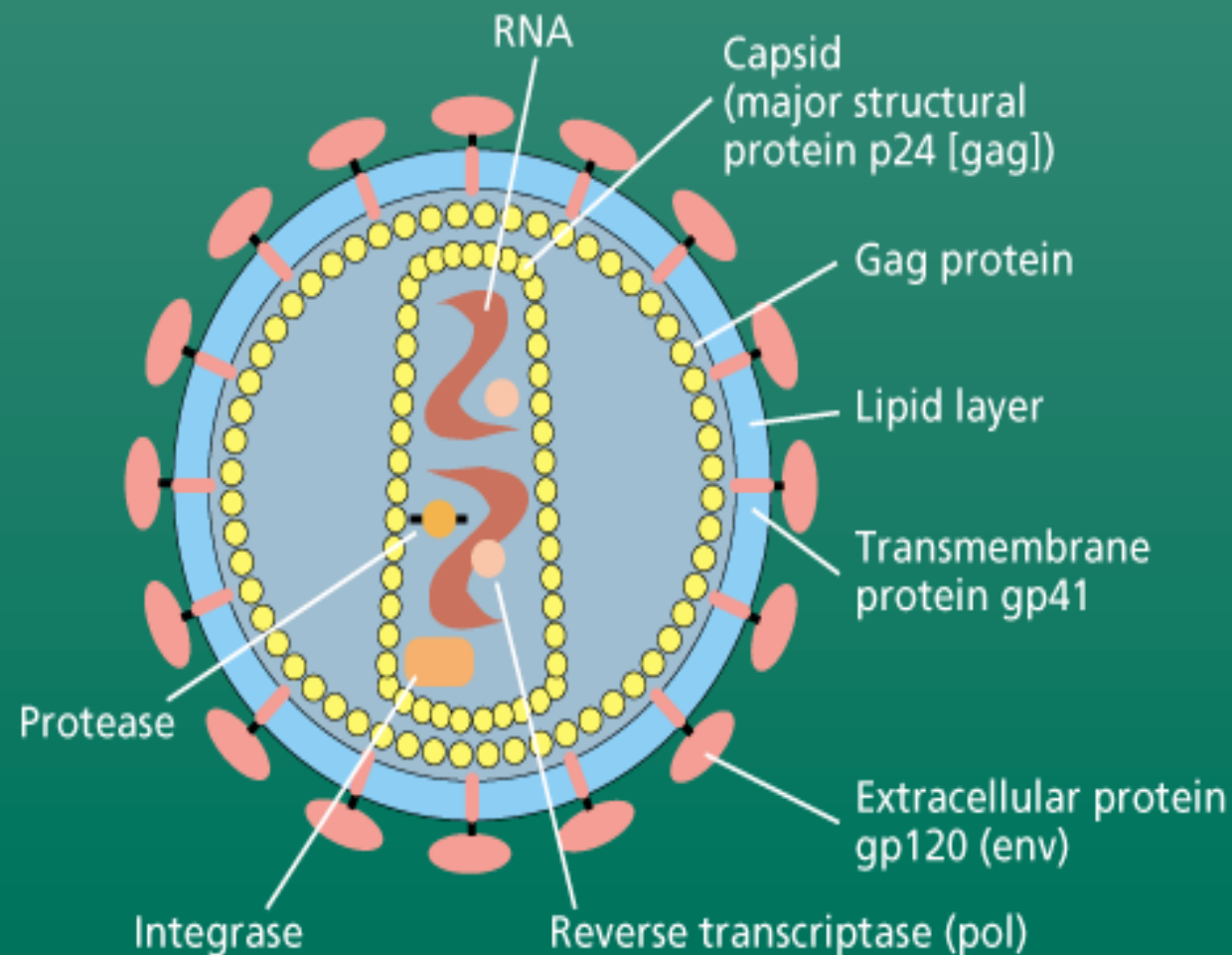
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What might have happened in Prague 12 weeks ago....

- **Remember HIV transmission through**
 - Blood and body fluids
 - Sexual transmission
 - Sharing drug injecting materials
 - Vertical transmission
 - Occupational exposure
 - Transfusion of unscreened blood products



HIV Structure

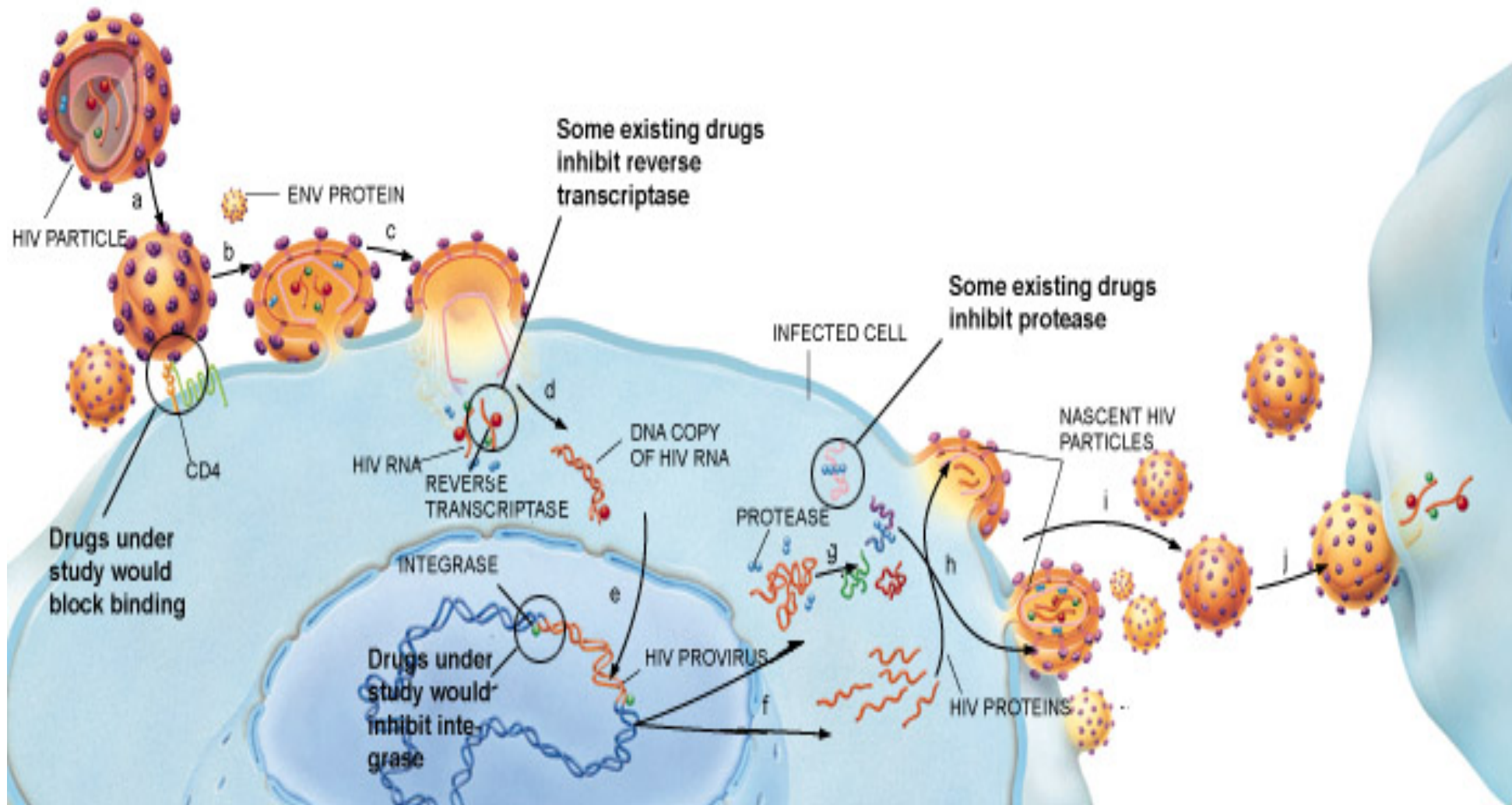


Adapted from *HIV/AIDS Handbook*. 3rd ed. Boston: Total Learning Concepts, 1997.



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The patient's journey

- Initial diagnosis
- Asymptomatic HIV infection
- Symptomatic HIV infection
- AIDS diagnosis
- An uncertain future



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AIDS defining illness

- **Opportunist Infections**
 - **Protozoal**: Cryptosporidiosis, Toxoplasmosis
 - **Fungal**: PCP Oesophageal Candidiasis, Cryptococcal Meningitis
 - **Bacterial**: TB, MAI, Recurrent Bacterial Pneumonia
 - **Viral**: Herpes Simplex, Cytomegalovirus, PML
- **Opportunist Tumours**
 - Kaposi's Sarcoma (KS): affects skin and internal organs
 - Lymphoma: most commonly in brain, bowel and lungs, Cervical carcinoma
- **Neurological**
 - HIV neuropathy,



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HAART – HIV's Treatment Revolution

- Highly active anti-retroviral therapy (HAART)
- Offers new hope
- Delays onset of symptoms
- Delays diagnosis of AIDS
- Extends and improves quality of life



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Treating HIV

- Treat the cause (the virus) with HAART
- Prevent opportunistic illnesses/ treat them if they occur
- Control symptoms, including the side effects of HAART
- **Treatment compliance vital!**



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Adherence and effectiveness

- 100% of doses taken, undetectable viral load at 12 months in 70%
- 80-99% of doses taken, undetectable viral load at 12 months in 46%
- Less than 80% of doses taken, undetectable viral load at 12 months in only 19%
 - Feedback from the International AIDS conference in Buenos Aires in July 2001, Dr Margaret Johnson



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Therapy

- **HAART** (Highly Active Anti-Retroviral Therapy)
- **Combo/combination therapy** (as drugs are always given in combination, at least three drugs)



Groups of drugs

- **Reverse Transcriptase Inhibitors**
- **Protease Inhibitors**
- **Fusion inhibitors**
- **Integrase inhibitors**



Credit: NIAID



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Resistance

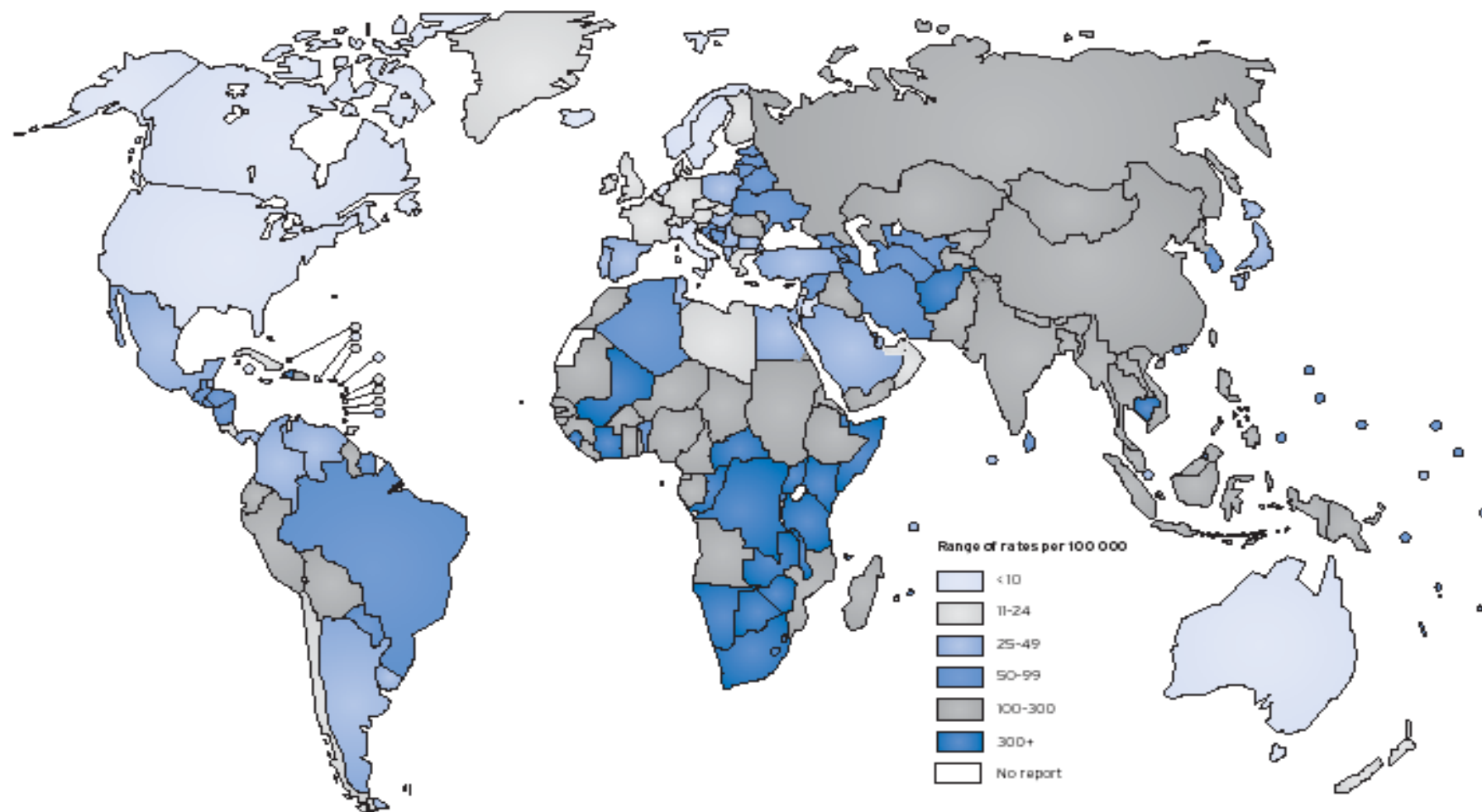
- Poor adherence
- Poor absorption
- Pre-therapeutic resistance (10%)
- Doses are inadequate (miscalculation or patient shares medication)
- Mutation
- Cross-resistance



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TB the most lethal opportunistic illness



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HIV and TB a deadly combination

- Tuberculosis is the leading cause of death amongst people living with HIV, about a third of those with AIDS will die of TB
- In 2003, approximately one third of the 43 million people living with HIV, were co-infected by TB
- Up to 70% of patients with sputum smear-positive pulmonary TB are HIV positive in some countries in sub-Saharan Africa
- The incidence of active TB amongst HIV positive people is 100 times that of the general population. If a person with HIV has latent TB there is a 10% chance per annum of it becoming active.



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Sources

- **The UK Collaborative Group for HIV and STI Surveillance. (2004). Focus on Prevention. HIV and other Sexually Transmitted Infections in the United Kingdom in 2003. London: Health Protection Agency Centre for Infections. November.**
- **UK national guidelines on sexually transmitted infections and closely related conditions. (1999). [Sexually Transmitted Infections](#). . London. Vol.75, Supplement 1; August. Pgs 2-88.**
- **M R FitzGerald, I Ahmen-Jushuf, K W Radcliffe, G Rooney, *et al*. (2002). Revised UK national guidelines on sexually transmitted infections and closely related conditions [Sexually Transmitted Infections](#). London: [Apr2002](#).Vol. 78, Iss'2; pg. 81, 2**
- **The Health protection Agency web site can be found at <http://www.hpa.org.uk/>**
- **THIS LECTURE CAN BE FOUND AT -**
- **www.staff.city.ac.uk/m.j.jones**



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