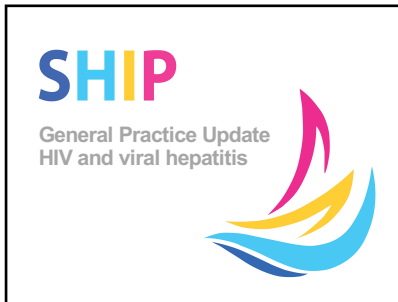




By the end of this session you should be able to:

- ✦ Explain the advantages of diagnosing HIV and viral hepatitis in general practice
- ✦ Explain the danger of late diagnosis of HIV and viral hepatitis
- ✦ Overcome barriers to, and normalise, BBV testing within your clinical practice
- ✦ Recognise HIV indicator conditions
- ✦ Outline parallels between HIV and viral hepatitis
- ✦ Outline sources of relevant information

Main routes of BBV transmission

Sexual

Unprotected sex with an infected partner

Vertical

a) In utero
b) During delivery
c) Breast milk

Needles

- Ever shared drug taking equipment (includes snorting)
- Iatrogenic
- Infected blood products

HIV transmission

Sexual

Vertical

Needles

Main route HIV

Hepatitis B transmission

Sexual

Vertical

Needles

95% of chronic Hepatitis B in UK is in migrants

Main route Hep B

Hepatitis C transmission

Sexual

Vertical

Needles

Chronic Hepatitis C in UK:

- 40% migrants
- 60% IVDU

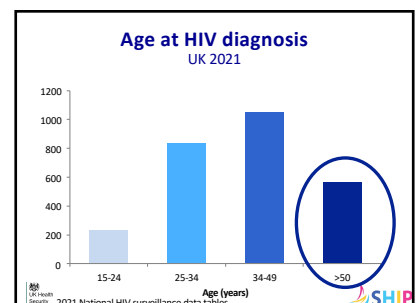
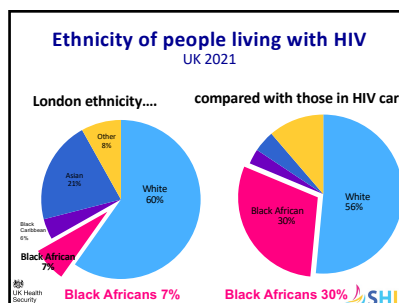
Main route hepatitis C in UK
via unsafe treatment abroad

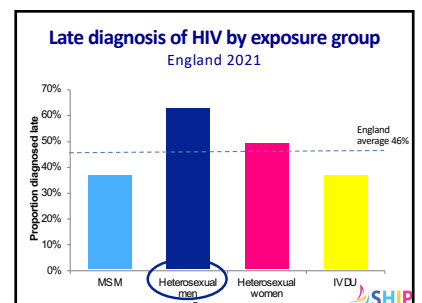
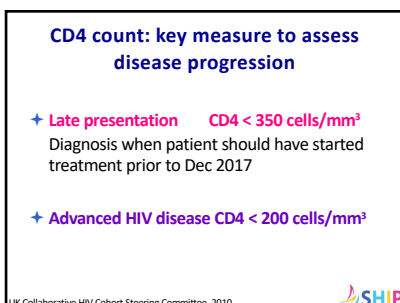
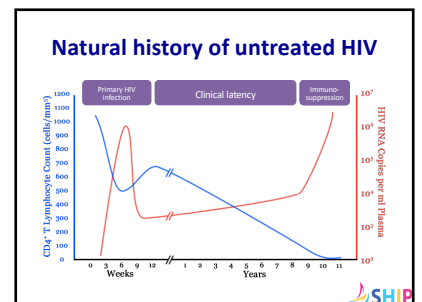
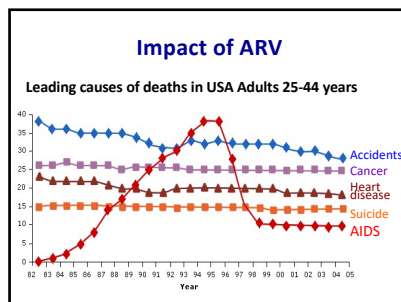
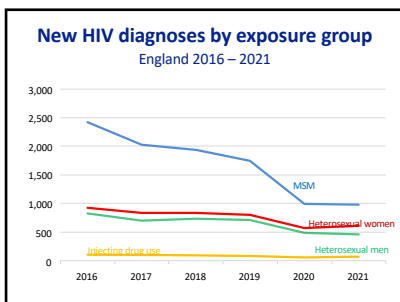
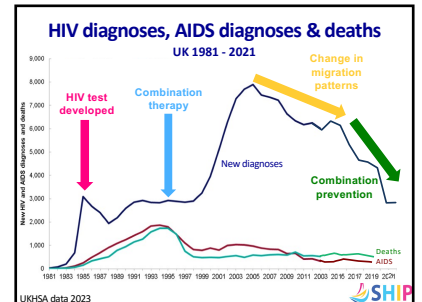
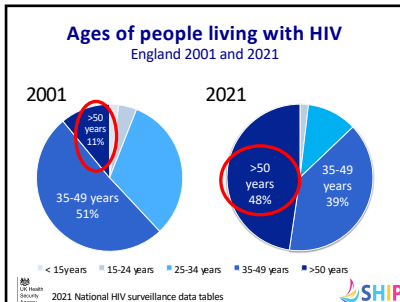
PHE data 2013

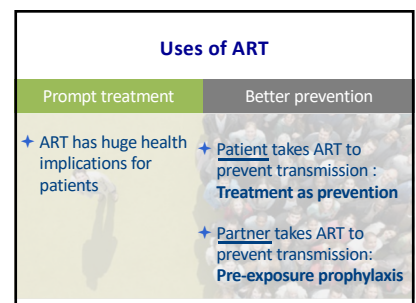
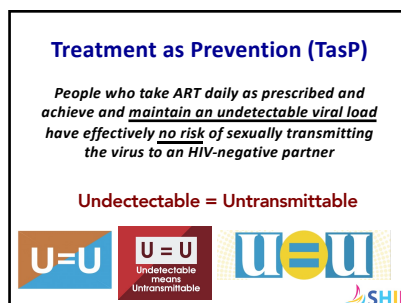
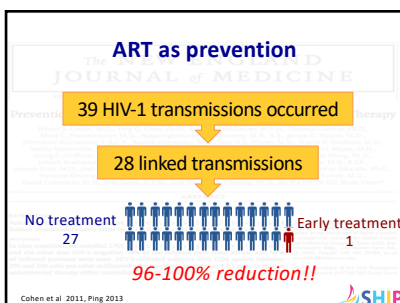
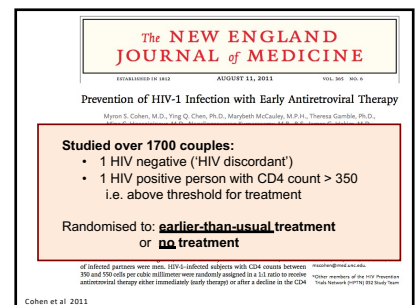
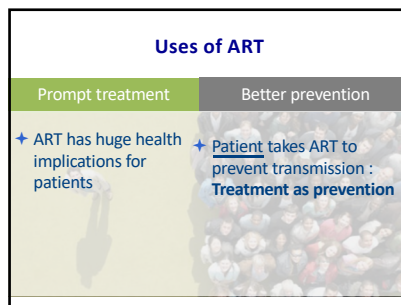
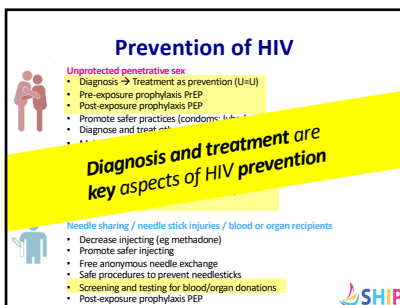
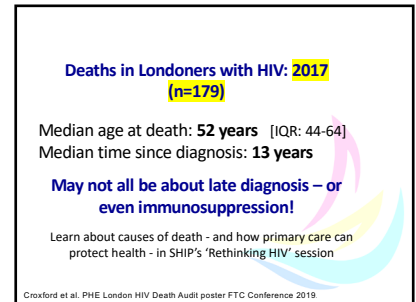
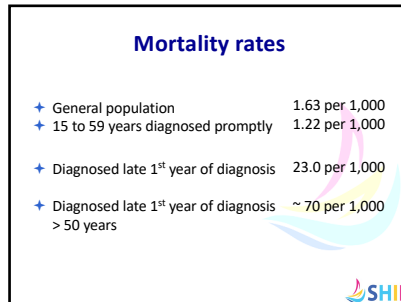
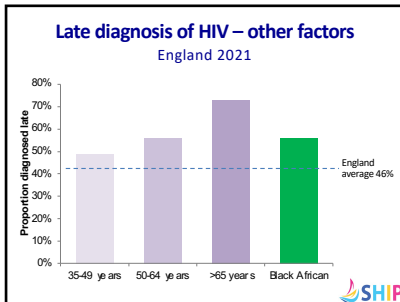
Regional HIV prevalence among adults (15-49 years old); 2021

Region	Prevalence
North America	0.3 %
Latin America	0.5 %
Caribbean	1.2%
Western & Central Europe	0.3 %
Eastern Europe & Central Asia	1.1%
Middle East & North Africa	<0.1 %
Western & Central Africa	1.3%
Eastern & Southern Africa	6.2%
Asia & the Pacific	0.2 %

www.unaids.org







PROUD Examining the impact on gay men of using Pre-Exposure Prophylaxis (PrEP)

Pre-exposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD): effectiveness results from the pilot phase of a pragmatic open-label randomised trial

PrEP: HIV negative people at high exposure risk take ART to reduce risk of infection

PROUD is registered with ISRCTN (number 18673764) and ClinicalTrials.gov (NCT03610194).

PROUD Examining the impact on gay men of using Pre-Exposure Prophylaxis (PrEP)

>500 HIV negative men who reported recent unprotected anal intercourse

Placebo vs **ARV daily treatment**

20 HIV infections
9/100 person yrs
Converted early to PrEP

3 HIV infections
1.2/100 person yrs

86% relative reduction

PROUD **PrEP is highly effective**

Study findings strongly support PrEP for standard prevention for MSM at risk of HIV

#PrEPWORKS

Key points about BBVs

In the UK the only life-threatening blood-borne viruses are those that are...

undiagnosed

HIV and viral hepatitis are entirely **preventable & highly treatable** infections

BUT we are missing them...

4 approaches to HIV testing

1. Patient request
2. Screening
3. Opportunistic testing - those at risk
4. Diagnostic testing - those with symptoms

How can practices increase patient requests?

Visible encouragement and reassurance with leaflets, posters and other prompts:

- Make clear HIV & viral hep tests are available
- Confidential service
- Non-judgmental service

how do patients know?

Contributes to normalisation of BBV testing

In fact, in practices doing a lot of testing, this is tiny proportion. Remember some key patients may be thinking HIV or hepatitis is nothing to do with them...

SHIP resources

All our patients, even young people under 16, have a right to a confidential service

HIV Testing

We offer HIV testing at this practice.

All staff are trained to protect patient confidentiality

HIV leaflets
Hep B & C leaflets

4 approaches to HIV testing

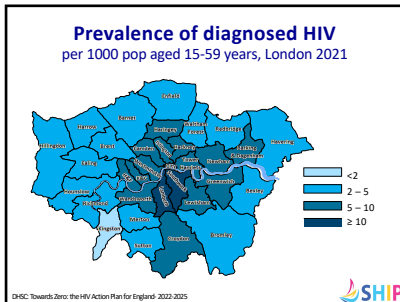
1. Patient request
2. Screening
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4. Diagnostic testing - those with symptoms

Prevalence of diagnosed HIV UK 2017

UK National guidelines 2020: "All stakeholders should...devise a comprehensive approach best suited to their population" (reflecting prevalence). Above 2 per 1,000 population

0 - 0.99
1 - 1.99
2 - 4.99
5+

PRE 2018 report: Progress towards ending the HIV epidemic in the UK



Prevalence of diagnosed HIV England local authorities rankings 2021

High prevalence HIV = >2 diagnosed HIV positive per 1000 pop aged 15-59 years

Rank	Local Authority	Prevalence (per 1000 pop aged 15-59 years)
1 st	Lambeth	13.7
2 nd	Southwark	12.0
3 rd	City of London	11.8 [small population]
4 th	Kensington & Chelsea	9.2
5 th	Camden	8.5
6 th	Westminster	8.1
7 th	Lewisham	8.0
8 th	Brighton & Hove	7.9
9 th	Hammersmith & Fulham	7.7
10 th	Hackney	7.2
11 th	Islington	7.1
12 th	Haringey	6.9

Towards Zero: the HIV Action Plan for England - 2022 to 2025

SHIP HIV screening guidance

In all areas:

- All patients with an STI
- All patients undergoing an abortion
- Pregnant women/ infertility/ pre-conception
- Current drug users

In high prevalence areas:

- All seeking contraception advice
- All newly registering patients

4 approaches to HIV testing

1. Patient request
2. Screening
3. Opportunistic testing - those at risk
4. Diagnostic testing - those with symptoms

At risk groups

Offer tests, including repeat testing, to those:

- From high prevalence countries
- Men who have sex with men
- People who inject drugs
- People who have sex with a partner who is in a high risk group above

The key is routine sexual history taking

Remember your sexual history-taking from earlier SHIP training!

Negative HIV test more meaningful after RRA compared with screening

- ✦ Reassures patient
- ✦ Reassures doctor if prompted by symptoms
- ✦ Education opportunity
- ✦ PrEP referral
- ✦ Immunisation for Hep A, Hep B and ?HPV
- ✦ Normalising for patient and social network

Rapid SH risk assessment

REMINDER

Do you have a partner at present?
Is it a sexual relationship?
Is your partner male or female?
How long have you been together?
Have you had any sex with any one else in that time? Has he/she?

Have you ever had sex with someone from another country?
Which country?
Have you ever had sex with a man? (To men, if not already disclosed)
Have you ever injected drugs or shared drug taking equipment?

Do you use condoms?
Have you ever had sex without a condom?

Does your contraception method suit you? Discuss efficacy

Increasing BBV testing

Phrases which work with asymptomatic patients

We are trying to do a lot more HIV and hepatitis testing, because the infections respond so well to treatment.

There is a lot of HIV / Hepatitis in your home country, I think. Do you know anyone affected? Have you ever had a test?

To a patient with an STI eg herpes or warts:

We recommend Chlamydia & HIV tests, as they are treatable and you may have been at risk.

Increasing BBV testing

Phrases which work with asymptomatic patients

All pregnant women are automatically offered a test for HIV and viral hepatitis – but we think its better to have this information before you get pregnant. Would you like a test?

As you were born overseas, you may not have been screened for sickle disease & rubella immunity. Would you like those tests?...have you ever had a test for hepatitis? Or HIV?

I see you had a negative test for HIV a year ago – is there any reason you wouldn't want another check now?

Increasing HIV testing
Phrases which work with asymptomatic patients

'But doctor – do you really think an HIV test is necessary for me?'

Well I don't think its my job to dissuade anyone from testing...currently we are doing too few tests, not too many'

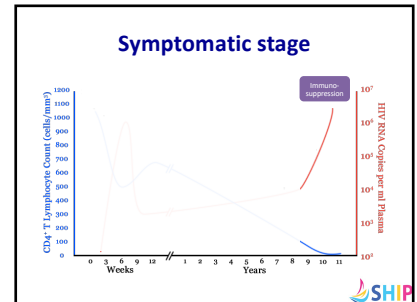
I always say – if in doubt: test!

Well actually I offer about 20 or 30 HIV tests a week, because I never want to put someone at risk by missing it..... so don't take it too personally!



4 approaches to HIV testing

1. Patient request
2. Screening
3. Opportunistic testing
- those at risk
4. Diagnostic testing
- those with symptoms

HIV indicator conditions	
Indicator condition	Conditions where HIV testing should be offered
Dermatology	Seborrhoeic dermatitis 'Exanthema' Severe or atypical psoriasis Herpes zoster (shingles) – particularly multidermatomal/recurrent Herpes simplex ulcers > 1 month Kaposi's sarcoma Molluscum Folliculitis



HIV indicator conditions	
Indicator condition	Conditions where HIV testing should be offered
Gastroenterology	Unexplained oral candidiasis Recurrent / persistent aphthous ulcers Oral hairy leukoplakia Gingivitis Kaposi's sarcoma Unexplained chronic diarrhoea Unexplained weight loss Anal cancer/dysplasia Shigella, Hep A, B or C infection [shared transmission risks]



HIV indicator conditions	
Indicator condition	Conditions where HIV testing should be offered
Respiratory	Community acquired pneumonia (particularly x2 in 12m) TB Pneumocystis Lung cancer



HIV indicator conditions	
Indicator condition	Conditions where HIV testing should be offered
Neurology	Peripheral neuropathy Subcortical dementia Encephalopathies (eg progressive multifocal leukoencephalopathy) Cerebral toxoplasmosis Guillain-Barré syndrome, MS like disease Mononeuritis
Ophthalmology	CMV retinitis



HIV indicator conditions	
Indicator condition	Conditions where HIV testing should be offered
Gynaecology	Cervical dysplasia Vaginal intraepithelial neoplasia Hard to treat genital candida Hard to treat genital warts Genital molluscum Atypically severe herpes ALL patients with an STI should be offered an HIV test!



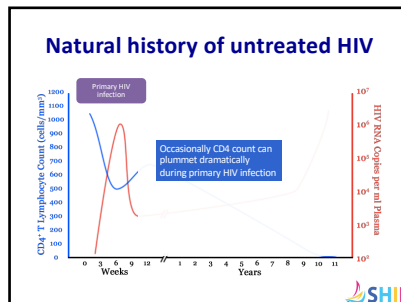
HIV indicator conditions	
Indicator condition	Conditions where HIV testing should be offered
Haematology	Unexplained lymphadenopathy Unexplained leukocytopenia > 4 weeks Unexplained thrombocytopenia > 4 weeks Anaemia
Oncology	Cervical cancer Anal cancer / anal intraepithelial dysplasia Lung cancer Lymphoma
Others	Flu-like illness Unexplained fever Unexplained chronic renal impairment



Common HIV indicator conditions in primary care

- Community acquired pneumonia
- Oral candidiasis
- Weight loss
- Chronic diarrhoea
- Lymphadenopathy
- Low Hb, Low WCC, low platelets
- Seborrhoeic dermatitis
- Shingles
- Cervical dysplasia
- STIs
- Flu-like illness

For more detail, including grade of recommendation, see BHRVA 2020 HIV testing guidelines



Primary HIV infection HIV seroconversion illness

This could be our first diagnostic opportunity

*When does it happen?
Symptoms and signs?
Differential diagnoses?*

Primary HIV infection (PHI)

Over 50% have v mild, or no, symptoms

If symptoms, typically start around 10d to 3w after infection
Sore throat, aching all over, may be prolonged: a bit like glandular fever, or perhaps flu.

Check for more specific features (although may be absent)

- + Truncal rash
- + Sores or ulcers in mouth or genital or peri-anal area
- + Diarrhoea, joint pains, transient immunosuppression

What are the advantages of diagnosing it?

Tests for primary HIV infection

In PHI: antigen component will be positive
antibody component may still be negative

Labs use 4th gen tests: combined antigen (p24) & antibody

Window period

- + Antigen should be positive by **21 days** after infection
- + Antibodies positive by **21 days in huge majority**
- + Repeat testing at 45 days

UK National Guidelines for HIV testing 2020

Primary HIV infection in GP

Sudarshi study

- + About 50% with symptoms due to PHI presented for healthcare
- + 19 patients diagnosis missed: **17** had presented in GP
- + 21 patients diagnosed with PHI: **4** diagnosed by their GP

National Aids Trust study

HIV negative gay men asked what they would do with relevant symptoms - Most common selected option (31%) was make appointment with GP

Missed opportunities for diagnosing primary HIV infection. Sudarshi et al STI 2007
Primary HIV infection: Knowledge amongst gay men. National Aids Trust Report 2012

HIV testing in flu-like illness

A study of patients tested for glandular fever in primary care found:

119 tested for HIV	739 not tested
3 positives	8 cases missed

- + 73% cases missed at initial presentation
- + 1.3% prevalence of HIV in this population

Hsu et al 2013

You call Ross, 26 years old

You don't know him and there is nothing of note in his records. He has had a severe sore throat, fever, tiredness and he aches all over. He has had this for 2 weeks.
He may have glandular fever or flu.

Are you even going to think about primary HIV infection?

What are the first few things you might do, ask or say?
Use quotation marks!

Needle in haystack: Spotting PCP in a time of COVID

PCP vs COVID vs anxiety vs asthma

Symptoms and timing differ: any thoughts?

PCP:

- May be like anxiety "can't get a full breath"
- Increasing SOB over 2 wks
- Including SOBOE
- Not got associated COVID symptoms (anosmia etc)
- Low saturation vs peak flow

o/e Findings may be same
CXR findings: normal or non specific for PCP (or 'ground glass')
HIV rapid risk assessment may be valuable

Margaret's story

- ✦ Mrs MK: 49 Caucasian accountant
- ✦ Admitted to EMU
- ✦ SOB / Cough / Weight loss
 - Worsening dry cough 2 months
 - Sputum 2 wks - heavy smoker++
 - Weight loss ++ 58kg ⇨ 34kg
 - Anorexia ++
 - Diarrhoea >1 year



Missed opportunities

- 2015 GP: Oral cold sores
- 2016 GP: Chest infection "Smoker"
GP: Shingles
GP: Chest infection, weight loss?
Hospital Admission: Bacterial Pneumonia
Dentist: Sore Mouth Biopsy ? Thrush
GP: Diarrhoea and weight loss
Referred Hospital: Ix for persistent diarrhoea, colonoscopy normal
- 2017 Re-referred Hospital: Anorexia, wt loss, indigestion, sore mouth
Barium meal normal, coeliac?
- 2018 GP: Chest infection, oral candida, molluscum face & arms, HSV, perianal warts



Diagnostic catches for Primary care

Many HIV-associated conditions...

- ✦ are common
- ✦ are considered benign
- ✦ will respond, in the short term, to treatment

> **'Watch and wait' is NOT a good strategy for HIV!**



Is my patient immunosuppressed?

- Enquire**
 - Weight loss
 - Sweats
 - Diarrhoea
- Examine**
 - Mouth: ulcers, candida, OHL
 - Skin: infections, seb derm, KS
 - Lymph nodes

HIV in Primary Care, Matthews 2016



Immunosuppression in primary care

- Review notes**
 - for HIV related conditions last 3 years
- General Practice is **THE** place where these individual episodes can be put together
- Risk assessment**
 - bring up the subject of HIV
 - discuss HIV risks with your patient

HIV in Primary Care, Mudge et al 2011



People with symptoms who decline testing

How good are **YOU** at making the case for HIV testing?

*"From what you tell me you are at very low risk of having HIV.
Can I suggest that we do a test anyway - in order to rule it out?"*

Symptomatic patients who decline testing, but about whom you have concerns, need **active follow up!**

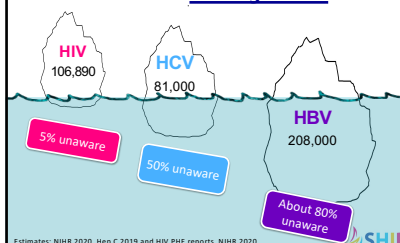


Spotlight on Viral hepatitis

Where are the similarities between HIV and viral hepatitis?



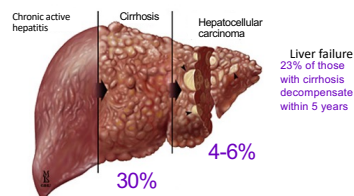
UK numbers of undiagnosed BBVs



Estimates: NIHR 2020, Hep C 2019 and HIV PHE reports, NIHR 2020



Natural history of hepatitis B



Sundaram 2015 BMJ



Prevention of Viral hepatitis



Unprotected penetrative sex

- Promote safer practices (condoms; tube for anal sex; limit partners)
- Treatment as prevention
- Post-exposure prophylaxis PEP: immunisation, HBIG
- Hep B immunisation: MSM, others at high risk



Mother to baby transmission

- Treatment as prevention
- Antenatal screening
- Hep B immunisation: babies



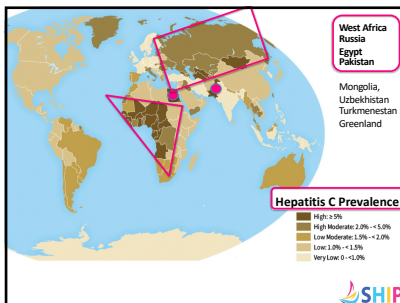
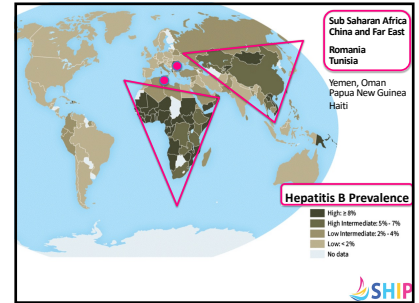
Needle sharing / needle stick injuries / blood or organ recipients

- Decrease injecting (eg methadone)
- Promote safer injecting
- Free anonymous needle exchange
- Safe procedures to prevent needlesticks
- Screening and testing for blood/organ donations
- Hep B immunisation: occupational risk, IDU

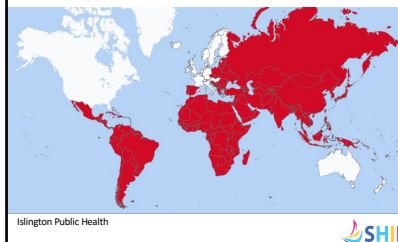


SHIP Viral hep screening groups

- From high prevalence country (NB China, India, Nigeria)
- Current or former drug users
- Babies of mothers with hepatitis
- Household or sexual contacts
- Homeless, living in a hostel
- Prisoners, young offenders
- Looked after children and young people
- Blood transfusion < 1991, blood products < 1986



Viral Hep screening simplified...



Clinical suspicion of viral hepatitis

Abnormal LFTs



Hepatitis B treatment

- Highly treatable if detected early
- Prevents disease progression
- Parallels with HIV re: viral suppression and long-term antivirals



- Treatment determined by:
 - Raised HBV DNA levels
 - Raised ALT
 - Liver fibrosis



Hepatitis C treatment



NEW AND IMPROVED

- Usually cleared altogether by treatment
 - 95% Sustained Viral Response (SVR)
- Cleared without liver damage if detected early
- Huge success in the UK: since 2015
 - numbers fallen by one third
 - deaths fallen by a quarter



Pre-test discussion

UK National Guidelines identify two essential elements for pre-HIV test discussion:

- Benefits of testing for the individual
- Details of how the result will be given



Positive HIV test

You will have time to think – the lab will call
Confirmatory test will be requested (you can arrange if you wish)
Get information, and support if you want
Arrange HIV clinic appointment

Be positive when telling the patient: so much better to know than not

You may want to discuss transmission-on: but partner notification etc will be done by clinic



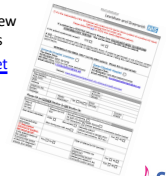
HIV clinics

- ✦ Lambeth: Caldecot Centre, Kings
- ✦ Southwark: Harrison Clinic, GSTT
- ✦ Email and speak to on-call HIV Consultants on Consultant Connect



Lewisham HIV clinic

- ✦ Lewisham: UHL/Greenwich clinic
 - DXS referral form
 - Email promptly after new diagnosis or LTFU cases
 - LH.AlexisClinic@nhs.net



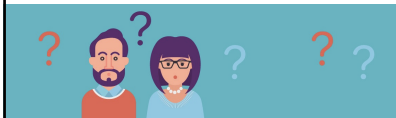
Negative HIV test

If rapid risk assessment showed your pt was at **HIGH RISK** please use **active** result-giving:

- ✦ PrEP?
- ✦ HBV and HPV immunisation?
- ✦ Risk reduction health promotion advice, condoms, lube
- ✦ Need for re-test to cover window period?
- ✦ All other tests sorted? (eg HBV, syphilis)
- ✦ Contraception?



Positive viral hepatitis results



- ✦ Hep C Antibody positive – check Hep C RNA
- ✦ Hep B positive results...



Hepatitis B panel interpretation

HBsAg	anti IgM HBc	Anti HBc	Anti HBs	Interpretation
--	--	--	--	Susceptible
--	--	--	+	Immune due to vaccination
--	--	+	+	Immune due to natural infection
+	+	+	--	Acute infection
+	--	+	--	Chronic Infection
--	--	+	--	Interpretation unclear

Four possibilities: 1. Resolving infection 2. False positive anti HBc
3. Low level chronic infection 4. Resolving acute infection

www.cdc.gov/hepatitis



Refer all with chronic viral hepatitis

- ✦ Hep B:
 - e-antigen/ antibody
 - DNA
 - anticore IgM
- ✦ Hep C: antibody
- ✦ Hep δ: antibody
- ✦ Hep A: antibody
- ✦ HIV
- ✦ LFT, GGT
- ✦ FBC, Ferritin
- ✦ Clotting
- ✦ αFP
- ✦ Liver ultrasound
- ✦ Vaccinate Hep B contacts



Management of people with HIV



Evolution of HIV therapy

First line therapy 1996



Ritonavir (PI) x 6
d4T x 2, 3TC x 2 (NRTIs)
TWICE A DAY

First line therapy 2021

Many od choices!

Eg
Efavirenz +
Emtricitabine +
Tenofovir

ONCE A DAY



Treatment overview

HIV is a chronic disease: once started therapy is lifelong

Anti-retroviral therapy (ART):

- Used in combinations of 3 or more drugs to suppress viral replication & prevent resistance occurring
- Incidentally found to prevent transmission-on
- Cannot eradicate HIV from reservoirs in resting T-memory lymphocytes



Treatment overview

Most patients well & may have 'near normal' life expectancy

Poorer outcomes associated with:

- Late diagnosis
 - Diagnosis long ago (older ARVs used; worse SE profile)
- All of which increase 'metabolic and inflammatory risk'
And HIV has a tangled interplay with risk behaviours

Median age of death with HIV in London is...52y;
usually not directly HIV related

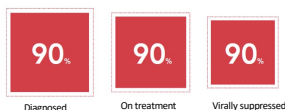


ART side effects increasingly rare

- Metabolic abnormalities
 - Insulin resistance, diabetes, raised lipids: increased CV risk
- Increased risk of liver and renal disease
- Bone mineral density loss



UN Treatment target



SHIP

HIV Drug Interactions

HIV Drug Interaction Checker

Access our comprehensive, user-friendly, free drug interaction charts. Providing clinically useful, reliable, up-to-date, evidence-based information

Start Now

A fantastic resource.....

University of Liverpool

Liverpool HIV iChart

Providing summary data of HIV drug interactions. Full details available at www.hiv-druginteractions.org

Search for Drug Interactions

SHIP

Key prescribing issues

- Proton Pump Inhibitors
- Fluticasone
- Some anticonvulsants
- Statins - simvastatin
- Clarithromycin, erythromycin
- Benzodiazepines
- Contraception: *FSRH Drug Interactions with Hormonal Contraception Jan 2018. Check www.hiv-druginteractions.org*
- Herbal remedies
- Recreational drugs



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Help!

Voluntary agencies

- Terrence Higgins Trust (THT) www.tht.org.uk
- AHPN www.ahpn.org.uk Black African & Caribbean communities
- NAZ www.naz.org.uk South Asian & Latin American communities – peer support, counselling, holistic therapies
- Body and Soul

Information

- British HIV Association (BHIVA) www.bhiva.org/
- BASHH www.bashh.org/
- Terrence Higgins Trust (THT) www.tht.org.uk
- NAM www.aidsmap.com/ (formerly National AIDS Manual)
- National AIDS Trust www.nat.org.uk/

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