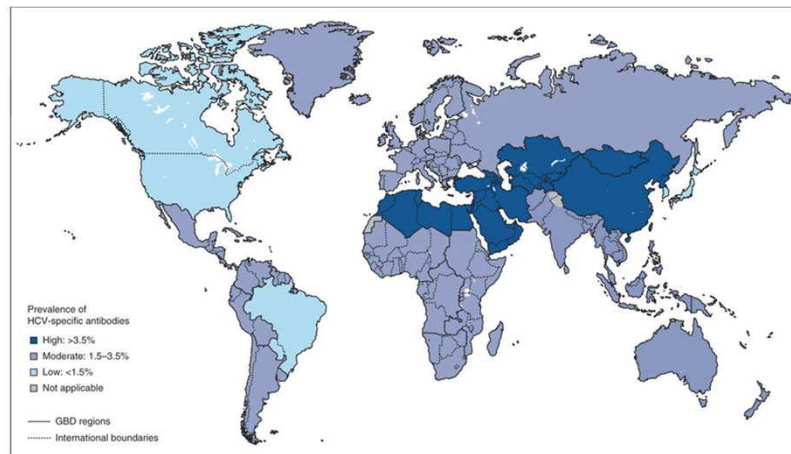


Hepatitis C

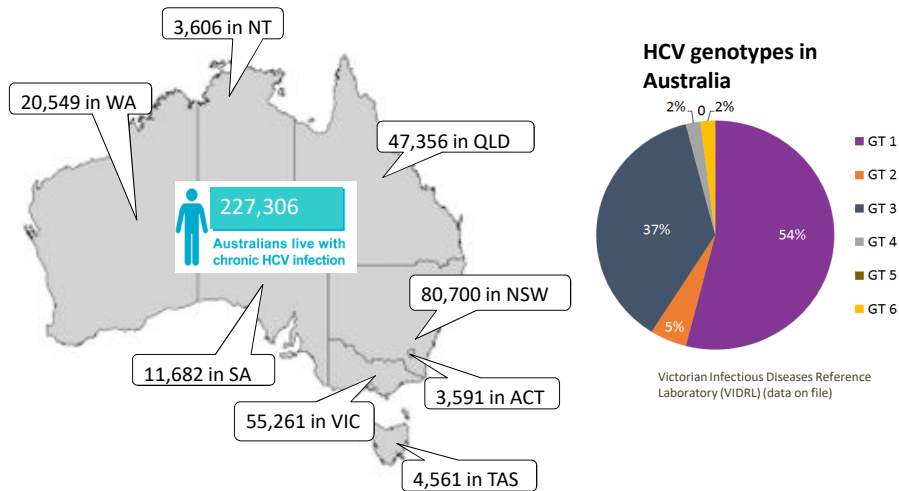
Where we are at in the Goulburn Valley!!



Internationally HCV is a continuing problem



In Australia-



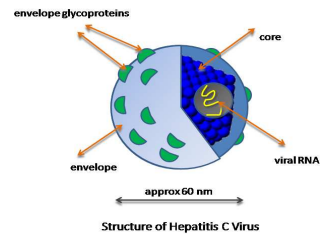
Kirby Inst. HIV, viral hepatitis and sexually transmissible infections in Australia. Annual Surveillance Report 2016

Hepatitis C in Australia

- ~227,306 people were living with hepatitis C at the end of 2015
 - 29,070 had severe fibrosis
 - 17,149 had hepatitis C-related cirrhosis
 - 818 deaths were attributable to hepatitis C
- 55,261 Victorians living with hepatitis C

HCV Can Be Cured!!!

Unlike HIV and HBV infection, HCV infection is a curable disease
Being an RNA virus, HCV does not archive its genome



Cure

- = Undetectable HCV RNA at 12 weeks after completion of antiviral therapy for chronic HCV infection
- = Sustained Viral Response (SVR 12)

Cure means the virus is gone, but the liver disease may still present and need further investigation or ongoing surveillance

Cure is durable

But cure does not provide immunity to re-infection

Aghemo A et al, J Hepatol 2012;57:1326-35; Ghany MG, et al. Hepatology. 2009;49(4):1335-1374; Hill A et al, AASLD 2014

New era of hepatitis C treatment

- 1st March 2016, Australia publicly subsidised through the Pharmaceutical Benefits Scheme (PBS) curative Direct Acting Antiviral (DAA) regimens for all people with hepatitis C

No restrictions on stage of liver disease

No restrictions on alcohol or drug use

No restrictions on the number of times a person can be treated

Hepatitis C treatment in 2016 and beyond



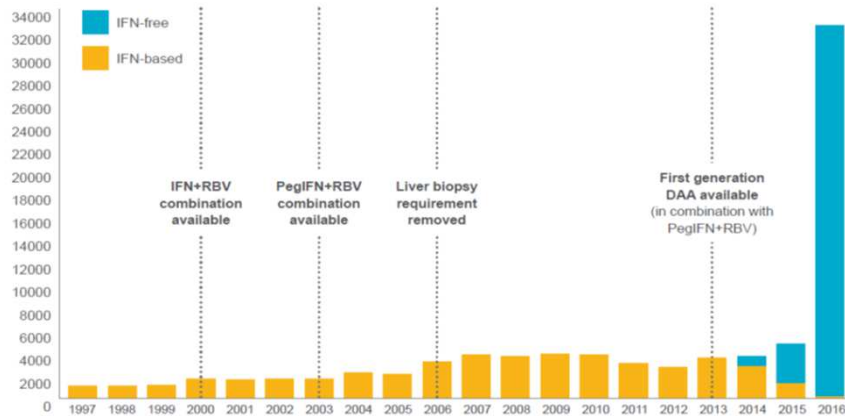
Australian Government



“..no matter what their condition or how they contracted it...”

Annual HCV Treatment Uptake, 1997-2016

Figure 1: Estimated annual number of individuals with chronic HCV infection initiating HCV treatment from 1997 to 2016 in Australia.



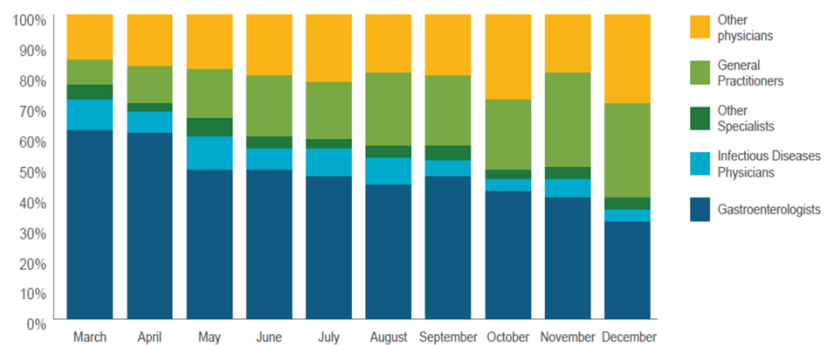
The Kirby Institute. Monitoring hepatitis C treatment uptake in Australia (Issue 7).
The Kirby Institute, UNSW Sydney, Sydney, Australia, July 2017

Australian consensus recommendations (2017)



- www.gesa.org.au
- Best practice guidelines for the management of hepatitis C
- Focuses on primary care management of hepatitis C

Broadening Prescriber Base is Important to Maintain High Treatment Rates



Other physicians included supervised medical officers (e.g., interns, resident medical officers, and registrars), public health physicians, temporary resident doctors, and non-vocationally registered doctors.

The Kirby Institute. Monitoring hepatitis C treatment uptake in Australia (Issue 7). The Kirby Institute, UNSW Sydney, Sydney, Australia, July 2017

What tests to order

In comments or notes section: ? hepatitis C infection.

Lab tests ordered for hepatitis C evaluation:

- hepatitis C antibodies (HCV Ab)
- +/- hepatitis C RNA (HCV RNA)
- +/- hepatitis C quantitative RNA and genotype.

In addition required for DAA commencement: Hepatitis B surface antigen (HBsAg), hepatitis B core antibody (HBcAb), hepatitis B surface antibody (HBsAb), LFT, FBE, INR, eGFR, U&E, HIV serology, hepatitis A serology.

Who should we test?

Table 1. Populations to consider for a hepatitis C virus (HCV) screening test

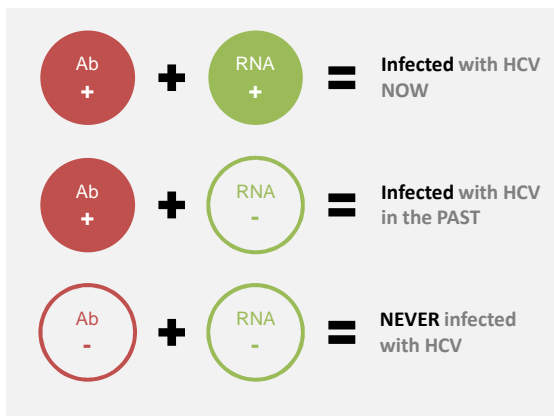
- People who inject drugs or who have ever injected drugs
- People in custodial settings
- People with tattoos or body piercing
- People who received a blood transfusion or organ transplant before 1990
- Children born to HCV-infected mothers
- Sexual partners of an HCV-infected person (individuals at higher risk of sexual transmission include men who have sex with men and people with HCV-HIV coinfection)
- People infected with human immunodeficiency virus or hepatitis B virus
- People with evidence of liver disease (persistently elevated alanine aminotransferase level)
- People who have had a needle-stick injury
- Migrants from high-prevalence regions (Egypt, Pakistan, Mediterranean and Eastern Europe, Africa and Asia)

Hepatitis C Virus Infection Consensus Statement Working Group. Australian recommendations for the management of hepatitis C virus infection: a consensus statement (August 2017).

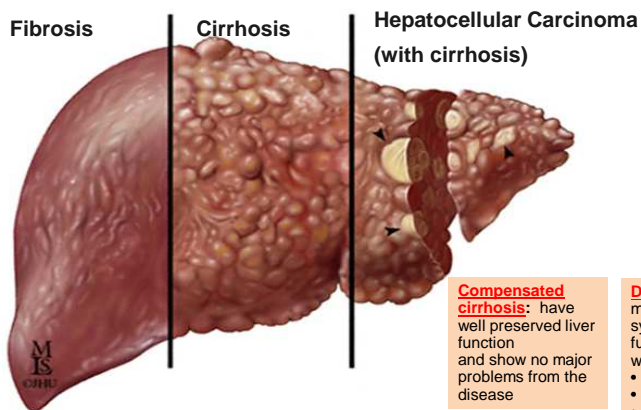
Interpreting Results

Ab
Antibody test EVER
come into contact
with HCV

RNA
Infected with the
virus NOW



Disease Progression in Chronic Hepatitis C



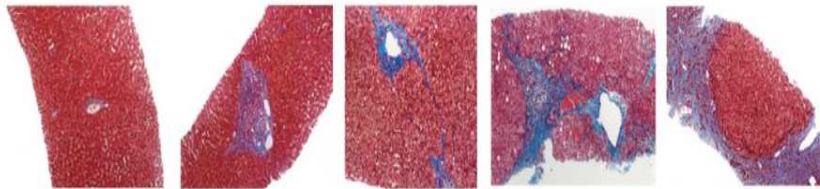
Compensated cirrhosis: have well preserved liver function and show no major problems from the disease

Decompensated cirrhosis: may have disordered synthetic function and be associated with:

- Jaundice
- Low albumin
- Coagulopathy
- Complications such as ascites, encephalopathy, variceal bleeding
- May develop HCC

Why it is Important to Diagnose Cirrhosis?

- Implications for future prognosis
- Determines urgency for treatment to prevent complications
- Determine treatment regimen and duration
- Counselling: liver cancer screening, variceal screening, vaccination for HBV/HAV, counselling about managing cofactors: HBV/HIV, alcohol, obesity



Fibrosis Assessment - APRI Online Calculators

Hepatitis C Online Sign In Create an Account

HCV Medications Course Modules **Clinical Calculators** Slide Lectures Core Concepts Master Bibliography Search

Clinical Calculators

- APRI Calculator
- AUDIT-C Questionnaire
- BMI Calculator
- CrCl Calculator
- CAGE Questionnaire
- CTP Calculator
- FIB-4 Calculator
- Glasgow Coma Scale
- GFR Calculator
- MELD Calculator
- SAAG Calculator

AST to Platelet Ratio Index (APRI) Calculator

This is an AST to Platelet Ratio Index calculator tool. Enter the required values to calculate the APRI value. The APRI Score will appear in the oval on the far right (highlighted in yellow). Most laboratories use 40 IU/L as the value for the AST upper limit of normal.

$$\text{APRI} = \frac{\text{AST Level (IU/L)}}{\text{AST (Upper Limit of Normal) (IU/L)}} \times \frac{\text{Platelet Count (10}^9\text{/L)}}{100} = \text{Result}$$

Interpretation:
In a meta-analysis of 40 studies, investigators concluded that an APRI score greater than 1.0 had a sensitivity of 76% and specificity of 72% for predicting cirrhosis. In addition, they concluded that APRI score greater than 0.7 had a sensitivity of 77% and specificity of 72% for predicting significant hepatic fibrosis.

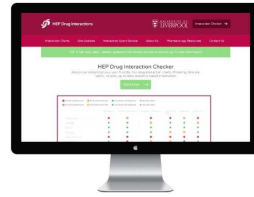
Source: Lin ZH, Xin YN, Dong QJ, et al. Performance of the aspartate aminotransferase-to-platelet ratio index for the staging of hepatitis C-related fibrosis: an updated meta-analysis. *Hepatology*. 2011;53:726-36.

If APRI >1 : need further assessment to exclude cirrhosis

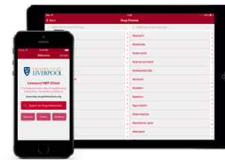
Drug Interactions

List of prohibited drugs is relatively short
 Varies depending on regimen chosen
 List of 'potential interaction' drugs is longer
 Review all prescription and OTC meds, herbals/ supplements
 Be alert for interactions with common drugs
 Eg. Statin, proton pump inhibitor, birth control preparation
 No herbs – esp. St John's Wort
 Ask about PRN usage of other drugs

HEP Drug Interactions website
www.hep-druginteractions.org



HEP iChart app
 App store | Google Play



Hepatitis C Drugs Available in Australia in 2017

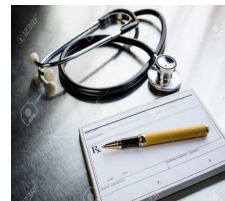


Prescribers

The PBAC recommendation was updated on the 1st June 2017:

DAA's can be prescribed by any medical practitioner experienced in the treatment of chronic hepatitis C infection, or in consultation with a gastroenterologist, hepatologist or infectious diseases physician experienced in treating chronic hepatitis C infection
Nurse practitioners are also approved to prescribe

How to Prescribe



- If confident, go ahead and prescribe using the GESA Guidelines to assist
- If seeking advice re treatment, can refer to GV Health using the GESA 'Remote Consultation Form' available on the GESA website. This will be reviewed by the next available Gastroenterologist and signed off with any appropriate advice
- If patient is referred for treatment and is deemed not cirrhotic based on the information provided by the referring GP, then patient will be seen asap by the NP and commenced on treatment
- If patient is cirrhotic and patient needs review and workup by the Gastroenterologist then the patient will be seen via the waiting list (6-12 months)

Specialists Available in the Goulburn Valley

- Three visiting Specialist Gastroenterologists, minimum fortnightly to GV Health, all treating Hepatitis C, direct referrals to Specialist Consulting Suites.
- One Nurse Practitioner-Suzanne Wallis working alongside the Gastroenterologists fortnightly
- One visiting Infectious Diseases Physician, visiting monthly to Shepparton Medical Clinic, referrals can be sent to Shepparton Medical Clinic
- Two GP Clinics supported by the Hepatitis C Integrated Hepatitis C Nurse on a fortnightly basis, to establish and treat patients existing within those practices
- Several GPs already actively involved in the care of and treating Hepatitis C patients

Advice re this process is available by contacting the HCV Integrated Nurse

Resources available to practitioners

Lots of information available for GPs in particular

- ASHM
- EC Eliminate Hepatitis C
- VHHITAL
- PHN
- Hepatitis Victoria
- GESA

