



	<p>The ABC's of Hepatitis... The new Alphabet Soup</p> <p><i>February 2010 v1.75</i> remember.understand.sharethelessons.act</p> 

	<p>The key to Hepatitis?</p>
	<p>Prevention !</p>

	<p>The base rule of blood- and fluid- borne pathogen prevention is:</p>
	<p>■ If it is wet and not yours don't touch it!</p>

	<p>The basics concept of Prevention</p>
	<p>remember. understand. Share the lessons. Act.</p>

	<p>What is Hepatitis?</p>
	<p>■ Inflammation of the liver</p> <ul style="list-style-type: none">- Causes<ul style="list-style-type: none">■ Viruses■ Toxins■ Genetic Disorders■ Bacteria■ Parasites■ Unknown causes

	<p>Liver</p>
	<ul style="list-style-type: none">■ Largest internal organ■ Located on right side under rib cage■ 3 lbs -(think a bag of rice)■ Size of a football■ Has over 500 vital functions 

Liver Functions

- Stores: vitamins, minerals, sugars
- Produces: bile, cholesterol and lymph
- Regulates: blood clotting, glucose, and hormone levels
- Cleans: the blood from bacteria and toxins

Liver Functions - continued

- Processes: food, alcohol and other drugs
- Converts: food and drink into forms the body can use
- Oxidizes: triglycerides to produce energy

Basically, the liver processes everything we eat, drink, swallow, breathe and/or absorb!

❖ *Don't gamble with your liver!*

Hepatitis Language

- Acute infection is when the infection is newly acquired
- Chronic infection lasts 6 months or more and is usually life-long
- Resolved or cleared infection occurs when the body has gotten rid of the infection

Hepatitis A

- Virus found in feces
- Transmitted fecal oral routes
 - Contaminated food and/or water
 - Direct contact with infected persons feces
- SEXUALLY TRANSMITTED
- Resolves-does not become chronic
- Can lead to severe hepatitis with chronic liver disease

What can I do?

- Wash your hands-Before you eat, teach your kids and grand kids and spouses to wash their hands after using the bathroom and before they eat.
- Vaccine available
 - Two doses over a six month period (three doses as part of twinrix™)
 - Life-long immunity

Hepatitis B

- Blood, semen, vaginal and other body fluids
 - High sexual transmission
- Perinatal- the period of time around the birth
- Percutaneous - puncture
- Injection and shared Non-injection drug use
- Chronic infection occurs in
 - 90% of infants infected at birth
 - 30% of children infected at age 1–5 years
 - 6% of persons infected after age 5 years
- Death in 15%–25% of chronically infected

What can I do?

- Avoid contact with body fluids
 - Use barrier methods gloves, condoms
 - Use new needles, cookers, cottons, etc.
 - Use your own personal items, such as razors, toothbrushes, etc.
- Vaccine available
 - Three doses within six months
 - Twinrix

Hepatitis C

- Blood to blood transmission
 - Percutaneous
 - Non-injection drug use
 - Injection drug use
 - Transfusions, organ transplants or blood products prior to 1992
 - Perinatal
 - Some sexual transmission
- Primarily causes damage to the liver
- Often no symptoms
- No vaccine available

Hepatitis C

- Of 100 persons infected with HCV:
 - 85 (85%) may develop long term infection
 - 70 may develop chronic liver disease
 - 10-20 may develop cirrhosis
 - 1 - 5 may die from consequences of chronic liver disease

HCV Testing

- HCV Elisa III (EIA)
 - Detects antibodies
- RIBA HCV
 - Confirming anti-body test

HCV Testing

- Viral Load
 - Amount of virus in per milliliter of blood
 - Copies or International units
 - Qualitative – presence of virus
 - Most sensitive
 - Quantitative – measure amount of virus
 - Some Quantitative are as sensitive as Qualitative

HCV Testing

- Viral Load
 - Confirm active HCV infection
 - Confirm HCV medications are working
 - Does not correlate with disease progression! More virus doesn't = sicker as in HIV
 - May effect mother to child transmission

Liver Biopsy

- Measures liver health
 - Measures scarring
- Treatment decisions
- Benchmark
 - Predictor of progression



Looks more painful than it actually is !!!

Hepatitis C Symptoms**

- Fatigue
- Brain Fog
- Flu symptoms
 - Muscle, joint, fever
- Itching
- Liver pain
- Loss of appetite
- Headaches
- Nausea/indigestion
- Depression

**Symptoms do not correlate to disease progression

How do you prevent Hepatitis C?

- Refrain from shooting drugs/Sharing needles
 - If you do, ALWAYS use new or sterile tools
 - Use enhanced needle safety
- Avoid contact with blood
 - Use your own personal items, such as razors, toothbrushes, etc.
 - Cover wounds and clean up blood spills promptly with bleach*
 - Use barrier methods
- Do not donate blood/blood products/plasma

Factors That Cause Hepatitis C Progression

- Alcohol consumption
- Drug use (OTC included)
- Acquired over age 40
- Males
- Co-infected with HBV or HIV
- Immune system is compromised
- Steatosis aka Fatty Liver

No Association with Progression

- Genotype
- ALT
- Viral load
- Mode of transmission

What can be done?

- Get the client evaluated-develop and long term plan
 - Work with the doctor about options
 - If recommended plan and then enroll in treatment
- Work to Keep the patients liver healthy

	Treatment
	<ul style="list-style-type: none"> ■ Only effective ~67% of time <ul style="list-style-type: none"> – Dependent upon individual – Genotype ■ Duration 6 – 12 months

	Goals of Treatment
	<ul style="list-style-type: none"> ■ Clear virus ■ Improve inflammation ■ Improve liver health–scarring ■ Slow disease progression ■ Improve symptoms and quality of life ■ Put HCV behind them and move on with their life

	Response to Therapy
	<ul style="list-style-type: none"> ■In the ever-changing world of Hepatitis C Treatment – it is best for you and your health care provider to set benchmarks to determine the effectiveness of treatment based on your virus genotype and set of health conditions.

	Who gets treatment: General Treatment Guidelines
	<ul style="list-style-type: none"> ■ Overall Health is Stable ■ Active HCV Infection ■ Elevated ALTs (exceptions) ■ Compensated liver disease

	HCV Treatment & Substance Use History
	<ul style="list-style-type: none"> ■ General Guideline 6 months clean/sober? ■ No alcohol while on treatment ■ Requires counseling on medication adherence ■ Key component – SUPPORT!

	Contraindications to HCV Treatment
	<ul style="list-style-type: none"> ■ Pregnancy or patients unwilling or unable to practice two forms of birth control ■ Poorly controlled psychiatric disease ■ Poorly controlled coronary disease ■ Kidney or heart transplant recipient ■ Autoimmune Disorders ■ Cancer ■ Decompensated liver disease (research only)

Who Does better with treatment ?

- Younger (40 and below)
- Female
- Lower Viral loads
- Minimal Liver Damage
- Genotype 2 or 3
- Lower Weight / BMI
- Little or No Steatosis

Preparing for Treatment

- Psycho-Social Evaluation
 - Some medications cause depression-so it is smart to talk to your MD from the start about anti-depressive therapy before you start Hep C treatment
- Drug and/or Alcohol Evaluation
 - Denial is a really deep river
 - C.A.G.E.
- Get your Eyes Checked
- Get help in planning your treatment so you can stick to it
 - Are you prepared to stick to the medication schedule
- Be aware of the Side-Effects
 - Forewarned is forearmed

Side-effects

- | | |
|------------------------|--|
| ■ Interferon | ■ Ribavirin |
| - Headaches | - Increases side effects of interferon, especially fatigue |
| - Slight fever | - Anemia |
| - Fatigue | - Shortness of breath |
| - Muscle/joint pain | - Birth defects |
| - Nausea/vomiting | |
| - Appetite/weight loss | |
| - Depression/anxiety | |
| - Skin irritation | |

New Drugs

- Change to cocktail therapy
- Algorithm simpler to HIV treatment
- Higher recovery rate
- Term CURE is now being used

Remember-

- Old age is not for sissies!

Managing Side-effects

- | | |
|-------------------------------|---------------------|
| ■ Injections at bedtime | ■ Moderate exercise |
| ■ Vary injection sites | ■ Plenty of rest |
| ■ Low doses of pain relievers | ■ Support system |
| ■ Drink lots of water | ■ Anti-depressants |
| ■ Small frequent meals | |

	Disease Management
	<ul style="list-style-type: none"> ■ Get vaccinated (A & B) ■ Avoid alcohol <ul style="list-style-type: none"> - <i>(don't avoid it-don't drink at all)</i> - Lowers immune response - Helps HCV replicate - Lowers treatment response ■ Monitor disease through doctor <ul style="list-style-type: none"> - Lab tests: Decisions should not be based upon one lab

	Wait...
	<ul style="list-style-type: none"> ■ Did I mention not to drink alcohol at all- period, none, zip -zilch -NONE

	Disease Management
	<ul style="list-style-type: none"> ■ Be cautious about all drugs, vitamins and herbs <ul style="list-style-type: none"> - Your liver processes everything - Avoid nicotine, caffeine, drugs, chemicals - Herbs have the potential to interact with prescribed medications

	Supplements
	<ul style="list-style-type: none"> ■ Avoid large doses of vitamins or supplements ■ General recommendation is multi-vitamin with no iron ■ Always discuss supplements and/or herbs with medical provider

	<p>Cameron Lewis Hepatitis Program Manager Arizona Department of Health Services 150 North 18th Ave #130 Phoenix, AZ 85013 Cameron.Lewis@azdhs.gov 602-364-3610</p>