Love Your Liver

This vital organ works hard for you. Here's how.

January 9, 2012 By Cindra Feuer

Living (and Working) Large

The liver is your body's biggest internal organ, reflecting its giant job as all-purpose filter. Tucked under the lower right side of the rib cage, it is a spongy mass of tissue that metabolizes, or processes, everything you eat, drink, breathe and inject. Carried there by the blood, all kinds of substances—from nutrients in food to HIV drugs to heroin and hooch—get broken down into wealth (used by the body) or waste (eliminated as urine, sweat, etc.).

Busy Body

The liver works overtime making bile (to aid digestion), immune agents (to fight infection), proteins (to build muscle) and clotting factor (to stop bleeding). The organ even stores up energy and has an awesome ability to regenerate. It can do this even when two thirds is removed, allowing for transplants and second chances.

Lowdown Hijacker

Into this finely tuned multitasking system crashes the hepatitis C virus (HCV), targeting the very liver cells—called hepatocytes—responsible for all the heavy work. Super sneaky C slips its own genetic mojo into the cell, so that when the infected hepatocyte reproduces, it will also birth the virus. No wonder the liver gets inflamed—that freeloading trick would enrage anyone.

Scar-Y News

In the months after they become infected with HCV, roughly 20 percent of people who also have HIV will clear hepatitis without treatment. The other 80 percent will go on to develop chronic hep C, though 20 percent of them may not have any problems at all (but they can still pass the virus to others). For the rest, hep C—if left untreated—will progress, damaging the liver slowly but surely over the coming decades. The damage can advance through four stages. First is inflammation: The liver gets swollen, even painful. Next up, fibrosis: Scar tissue forms over the inflamed cells. Then, possibly, cirrhosis, when knots of scar tissue block the flow of blood between cells and compromise the liver's structure and function. Last and worst is either liver failure or cancer.

The HIV Angle

HIV targets the immune system, leaving the liver to hep C and other viral villains. So why is coinfection double trouble for the organ? Because HIV causes hep C infection to progress

faster—one more good reason to take the meds that keep your HIV viral load low and your CD4 cells high. But beware of coinfection's catch-22: You need HIV meds, but certain ones can stress your liver—and push an HCV-infected organ over the edge. That's why it's important to pick the kindest, gentlest meds and test your liver during treatment.

Traffic Jam

Mixing meds can make a mess, which is a special concern if you're using HIV drugs and your doc wants to prescribe one of the new meds for hep C: Victrelis or Incivek. These drugs and many HIV treatments compete for the same processing pathway. This can cause too much of a drug to build up in the blood (producing side effects and toxicity) or too little of the drug to get through (causing resistance or lower efficacy). Treating HIV and hep C calls for the right balance—make sure your doc double-checks the meds you've been prescribed and, if necessary, switches your HIV meds to ensure magical matches.
