Hepatitis C (HCV) is a viral infection of the liver. Up to 85% of infections become chronic, potentially leading to cirrhosis, liver failure and liver cancer.

HCV affects >185 million people worldwide. In the US, ~3.5 million people suffer from chronic HCV.

Previous HCV treatment regimens achieved cure in 54-56% of cases at best. In 2011, direct-acting antiviral agents (DAAs) were discovered, which target specific nonstructural proteins that play an important role in the HCV life cycle.

There are four classes of DAAs, defined by their mechanism of action and therapeutic target:
1. Nonstructural proteins 3/4A (NS3/4A) protease inhibitors
2. NS5B nucleoside polymerase inhibitors
3. NS5B non-nucleoside polymerase inhibitors; and
4. NS5A inhibitors.

The combination of DAAs in a treatment regimen depends on:
- The type of hepatitis C (There are seven strains)
- Prior treatment for hepatitis C
- Degree of liver damage
- Other health problems
- Other medications

Treatment typically involves a combination of 2 or more medications in pill form for 2-3 months.

Three months after the end of treatment, a blood test is done to confirm cure. The DAAs have cure rates of 94-99%.