

Hep C factsheets

Genotypes



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Global patterns

It is believed that hep C has evolved over a period of several thousand years. This would explain the current general global patterns of genotypes and subtypes, eg:

- 1a is mostly found in North & South America; also common in Australia
- 1b is common in North America, Europe and Japan
- 2b is the most common genotype 2 in the USA and northern Europe.
- 2c is the most common genotype 2 in western and southern Europe.
- 3a is common here in Australia and southern Asia.
- 4a is highly prevalent in Egypt
- 4c is highly prevalent in Central Africa
- 6 is common in Asia

Introduction

Viruses are microscopic and are so small that around 30 billion would fit on a full stop.

Although it is much easier to talk of the hep C virus as if it is a single organism, in fact it is a group of viruses, similar enough to be called hep C, yet different enough to be classified into subgroups.

Genotypes

Several identifiable 'families' of hep C have been observed around the world, differing slightly from each other in their DNA sequencing (genetic makeup). The most commonly used classification system lists these 'families' as hep C genotype 1, 2, 3, etc.

Subtypes

Within each genotype, difference between viruses exists – too small to be seen as a different new genotype but significant enough and measurable, thus making the term sub-type applicable. These lesser classifications are described as hep C genotype 1a or 1b, etc.

Australian patterns

In Australia, there are particular genotype patterns:

- genotype 1 accounts for 54% of cases,
- genotype 2 accounts for 6% of cases,
- genotype 3 making up 36% of cases,
- genotype 4 accounts for 3% of cases.

The small remainder of cases would involve people with genotypes 5 or 6.

Genotype and treatment

Current research suggests that response to pegylated combination therapy is related to a person's hep C genotype. Hep C genotypes 2 and 3 have been shown to have a higher sustained response rate (80%) than genotype 1 (50%).

A sustained response is where no presence of the virus can be detected immediately after therapy, and for six months afterwards. Recent research shows that 99% of these people maintain their viral clearance for at least four years and it is believed their response will last indefinitely.

Also see:

Hep C Treatment (factsheet)

PCR Availability (factsheet)

PCR and Hep C Transmission (factsheet)

- Adopted from *Genotypes and Genetic Variation of Hep C Virus* by G. Maerterns & L. Stuyver, reviewed by Dr Greg Dore of the National Centre in HIV Epidemiology & Clinical Research.