

Treatment in children

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There is very good evidence that anti-HIV drugs can work well in babies and children, and there have been big falls in the amount of illness and death caused by HIV in babies and children. Many children who were infected with HIV when they were babies are now young adults and can look forward to a long and healthy life.

But, just like in adults, anti-HIV drugs can cause side-effects and need to be taken at the right time and in the right way to work properly. Your child's HIV clinic will have experience of supporting families and helping children to take HIV treatment.

Fewer drugs have been studied and approved for the treatment of HIV in babies and children than in adults, but some are available in formulations designed especially for children, such as syrups.

Monitoring HIV in children and babies

Your child will need regular medical monitoring to see how HIV is affecting his or her health. This will involve a number of tests and examinations. Two of the most important tests measure CD4 cell count and viral load.

CD4 cells are the immune system cells that HIV attacks. The number of CD4 cells in a sample of blood, or CD4 cell count, gives a rough idea of the health of the immune system.

Before the age of five or six, children have higher CD4 cell counts than adults. This means that babies and children can become ill with HIV when they have CD4 cell counts that would seem high in an adult. Very young children can become ill when their CD4 cell count is between 1000 and 2000.

Because of this, doctors use another test to look at the strength of the immune system of babies and young children. This measures the number of CD4 cells as a proportion of all immune system cells. A CD4 cell percentage below 25% shows that there has been some damage to the immune system. A CD4 cell percentage below 15% shows that there's been a lot of damage and a risk of severe, even life-threatening illness.

Another key test used to monitor HIV is viral load – the amount of HIV in a sample of blood. Babies with HIV tend to have very high viral loads – about 200,000 copies/ml – but this falls gradually over the next five years.

When to start treatment

Decisions on when to start treatment are made on an individual basis. This will take into account the health of your child and the way HIV is affecting his or her immune system.

Current guidelines recommend HIV treatment for all infants and for children of any age who are ill because of HIV.

Decisions on when to start treatment in children older than twelve months will depend on the strength of their immune system. In children aged 1 to 3, treatment is recommended when the CD4 percentage is less than 25%, or when the CD4 count is under 1000. In children aged 3 to 5, treatment is recommended when the CD4 percentage is less than 20%, or when the CD4 count is under 500. In children aged 5 or over, treatment is recommended when the CD4 count is around 350.

The aim of treatment is to reduce viral load and allow the immune system to strengthen, which helps your child to fight off illnesses. If viral load is high (above 100,000 copies/ml), then treatment may also be considered, even if the child has a high CD4 count and is otherwise well.

Treatment decisions should be made with your child's HIV healthcare team, who should be able to explain the results of any tests your child has to you.

Anti-HIV drugs

There are fewer anti-HIV drugs approved for babies and children than adults. And there are restrictions on the use of some of the available drugs according to the age or weight of a child.

The HIV clinic will also test for any drug resistance. If HIV is resistant to any antiretroviral drugs, then those drugs will not work properly and your child's doctor will try to avoid using them.

As in adults, HIV therapy is usually made up of a combination of three drugs. Different types of anti-HIV drugs work in different ways, so combining them makes them more effective. The recommended first treatment combination is made up of two NRTI drugs (a type of anti-HIV drug called nucleoside reverse transcriptase inhibitors) and either a protease inhibitor (PI) or a non-nucleoside reverse transcriptase inhibitor (NNRTI).

If your child doesn't have drug-resistant HIV, they will usually start treatment with the NRTIs 3TC (lamivudine, *Epivir*) and abacavir (*Ziagen*), in combination with either the PI lopinavir/ritonavir (*Kaletra*), the NNRTI nevirapine (*Viramune*) if they are under 3, or the NNRTI efavirenz (*Sustiva*) if they are older.

Some people have an allergic reaction to abacavir. Before starting treatment with abacavir, the clinic will test your child for a particular gene (HLA-B*5701). If the test is positive, it's more likely that your child would have a reaction to the drug and it's important that he or she doesn't take abacavir, or any drug containing abacavir. The preferred alternative drug is another NRTI called AZT (zidovudine, *Retrovir*).

Taking HIV treatment

HIV treatment needs to be taken correctly to work. It is possible that you and your child might find this difficult at times. The type of difficulties might change as your child gets older.

For babies and infants a small tube can be fitted into the stomach into which you can directly inject medicines.

Many anti-HIV drugs come in a liquid or syrup for children. Such liquids might be easier to take than pills, but they often have an unpleasant or unusual taste. Giving your child a sweet after they have taken their medicine might be a way of getting around this.

Try and be honest with your child and explain that it is important to take medicines regularly.

As your child gets older you can involve him or her in their adherence. For example, you might provide encouragements to keep a diary that records when pills are taken.

Or you could try to make taking medicines fun – try and think of a way of turning it into a game.

It's a good idea to talk to your child's HIV clinic about this. They will have experience of supporting families and may be able to give you practical advice and support. For more information on finding support see the factsheet *Children*, available on our website at www.aidsmap.com/factsheets.