be functionally cured of their infection? A month ago, most researchers would have said no. Now, they're not so sure.

Emily Erbelding, deputy director of the Division of AIDS at the NIH's National Institute of Allergy and Infectious Diseases in Bethesda, Maryland, which partially funds IMPAACT, thinks the answer could be 'yes'. "There might be some window of opportunity where antiretroviral therapy alone can just knock down viral replication and maybe prevent any significant reservoir from being established—that's the hypothesis," Erbelding told *Nature Medicine*. "It's probably our highest priority for research in children, as far as HIV goes, to figure out how to test that and to see if this case can be replicated. The hope is that we can cure kids from HIV."

Aggressive tactics

Before investigating the possibility of drug cessation, however, Persaud, Luzuriaga and their IMPAACT colleagues want to first test the risks and benefits of aggressive treatment from birth for babies with a high probability of HIV infection. "What we want to do is see is if we can replicate the Mississippi case" in infants whose mothers for some reason did not take the standard preventative antiretrovirals during pregnancy, says Paul Palumbo, a pediatrician at the Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire, and vice-chair of the clinical trials network. The team is now writing up a clinical protocol for a pilot study that would include about two dozen babies born in these circumstances.

The impetus for that study doesn't come from just the Mississippi baby, though. Inspiration is also being drawn from some of the first children to ever receive highly active antiretroviral therapy (HAART), a combination of at least three drugs designed to suppress HIV replication, in the mid-1990s. Reporting at CROI, researchers showed that, of five individuals who were started on a triple drug regimen before three months of age and who have since received the medications for an average of 16 years, four now have no detectable levels of viral replication or HIV-specific antibodies in their bloodstreams.

Looking ahead, "it may be reasonable to consider a trial off therapy for these kids," says Luzuriaga, who led the study. But first, she and her team would like to conduct more studies using ultrasensitive assays to be absolutely sure the now teenagers have cleared all of the virus that can replicate from their bodies before withdrawing the drugs and risking the possibility of viral rebound.

There is some precedent for stopping drug treatment in children with HIV. For instance, William Borkowsky, of New York University School of Medicine, and his colleagues previously tested the idea of cyclically weaning kids off of HAART for progressively longer and longer intervals, with the hope that periodically exposing children to their own viral strains would serve as a type of 'autologous vaccine' to build up HIV-specific immune responses. It worked to some extent, but RNA levels of the virus never dropped precipitously (*AIDS Res. Hum. Retroviruses* **24**, 401–411, 2008). At last year's CROI, a team led by Mark Cotton of Stellenbosch University in South Africa also presented data showing that HIV-infected infants first given HAART before three months of age could safely stop taking their drugs after one or two years of treatment, although the majority of such kids had to restart therapy after less than a two-year drug holiday. Importantly, neither study raised any major red flags in terms of safety. Still, "the bottom line," says Palumbo, "is you always see some evidence of the virus post–drug withdrawal."

Perhaps a strategy of early, aggressive treatment before drug withdrawal would be different. And should the approach prove successful, it could spare thousands of babies a lifetime of drug therapy. But, as David Margolis, a molecular virologist and clinical investigator at the University of North Carolina at Chapel Hill, points out, there remains a more effective—and proven—strategy to avoid HIV infection in children: "It's better to treat the mother" during pregnancy.

Elie Dolgin

Competition intensifies over DNA-based tests for prenatal diagnoses

Prenatal DNA testing has been a fiercely competitive market of late. Yet another company entered the fray recently when Natera, a start-up based in San Carlos, California, announced the 1 March launch date of a commercial test that can detect chromosomal abnormalities in the developing fetus from just a drop of an expectant mother's blood—with a sensitivity it claims is on par with that of more invasive techniques such as amniocentesis and chorionic villus sampling, both of which carry an elevated risk of miscarriage.

Natera now joins three other California-based firms—Sequenom, Verinata Health (a division of sequencing giant Illumina) and Ariosa Diagnostics—in offering such products for women at high risk of having babies with Down's syndrome or other chromosomal irregularities known as aneuploidies. With US health insurers, including Aetna and Wellpoint, saying they plan to cover the new tests, the market for DNA-based prenatal screening now provides "a billion dollar opportunity," according to David Ferreiro, an analyst at Oppenheimer & Co. in Boston.

Nature Medicine looks at how the four tests stack up.

Kevin Jiang

Analyzing aneuploidies: A survey of genomic prenatal test offerings.

	Natera's Panorama	Verinata's verifi	Sequenom's MaterniT21 PLUS	Ariosa's Harmony
Trisomies tested	13, 18, 21	13, 18, 21, sex chromosomes	13, 18, 21, sex chromosomes	13, 18, 21
Monosomies tested	X chromosome	X chromosome	X chromosome	None
Genetic testing method	Single nucleotide polymorphism	Massively parallel sequencing	Massively parallel sequencing	Chromosome-selective sequencing
Sensitivity	92–99%	87–99%	92–99%	80–99%
Accuracy	100%	100%	>99%	>99%
Earliest gestational age	9 weeks	10 weeks	10 weeks	10 weeks
Price	$1,495	$1,500	$2,762	$795