For couples at risk of having a child with a serious inherited disease, karyomapping could be the breakthrough they have been hoping for. But if we can obtain a “genetic MoT” for an embryo, should we do so? How much information is enough? And who should have access to it?

Let’s make one thing clear. This is not the key to the door of “designer babies”. Pre-implantation genetic diagnosis (PGD) centres will not be under siege from couples desperate for a perfect child.

While in theory it may be possible to use karyomapping to choose a child’s genes, in reality practical limitations, good regulatory oversight and parental common sense will ensure that we don’t slide down that slippery slope. Producing enough embryos to choose an optimum combination of genes will be extremely difficult.

But we will face new decisions about the kinds of diseases for which we should be able to test. We will also need to decide whether it is appropriate to test for more than one disease at a time and if it is acceptable to test for chronic but non-lethal diseases.

If these choices exist, why shouldn’t parents have the opportunity to have the best possible child? On the other hand, there is something distasteful about selecting children to a pre-determined specification - it seems to go against what is important about being a parent.

Karyomapping could also provide an unprecedented amount of genetic information about an embryo even before it is implanted. Once this information exists in clinical records, couples have the right to access it. But should they? In general, we do not do any genetic testing in children who could reasonably wait until they are old enough to decide for themselves.

Providing an entire “genetic MoT” before a child exists will raise issues of privacy and data protection. Parents may not remember the significance of what they are told and the scientific meaning of the information will change over time. So we should avoid giving out any genetic information that goes beyond determining which embryo to implant.

Karyomapping will require careful oversight, for example by government bodies such as the Human Fertilisation and Embryology Authority and the Human Genetics Commission. We need to monitor the diseases it is being used for and the level of information provided to couples.

Let's also not forget that PGD still involves in-vitro fertilisation, which is time-consuming, expensive and carries no guarantee of a pregnancy. Prospective parents who are interested in having a baby free of a genetic disease will want this new technology only if it will reduce these pressures.

There can never be any guarantee of a perfect child. For this reason, most couples will continue to have their children in the old-fashioned way.

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Document T000000020081024e4ao00083