

Warning not to delay motherhood past 35

Funding alert as women delay having babies

Sex for procreation could soon be a distant memory, but is the future of our fertility a utopian vision? Nicole Mowbray reports

FROZEN: THE FUTURE

Ten times harder to get pregnant aged 43 than 37

OOCYTE CRYOPRESERVATION is not a phrase that trips off the tongue. But latest statistics show that among British women the demand for egg freezing, as the practice is more commonly known, has risen by 400 per cent in the last year, making it the most popular fertility treatment in the UK. Research shows that four out of 10 women seeking this treatment are aged 25-34 and undergoing it to 'postpone having a baby'.

We may be dogged by proclamations about how fertility 'falls off a cliff at 37', with headlines decreeing us 'the oldest mothers in the world' (first-time mums are now 30 on average), but these stats show that technology, if not society, has moved on and is giving us insurance.

Tech companies such as Facebook and Apple in the US are offering to pay for egg





IVF may be
routine, but
its power to
transform
lives persists

OF YOUR FERTILITY

‘Let women who want children
in their 50s freeze their eggs’

freezing for female employees as part of their benefits package, and hundreds of young professionals are attending 'egg-freezing parties' held in upmarket hotels by fertility preservation company Eggbanxx. The company hopes to bring them to the UK.

So what is the future of fertility? Before his death in January, inventor of the pill Professor Carl Djerassi revealed his predictions. By the year 2050, he forecast that sex will be merely for recreational purposes. Young people will increasingly opt to have their eggs and sperm frozen in their teens and stored in a lab, to be used whenever they decide to have children. Following this, they will be sterilised.

In Djerassi's opinion, this practice has many benefits. Young eggs and sperm are of better quality and less likely to have chromosomal abnormalities, which means healthier babies. It will also eliminate periods and see the end of abortions and unwanted pregnancies.

Dr Gillian Lockwood of the Midland Fertility Centre has said fathers should consider paying for egg freezing for their daughters as a graduation present. Professor Susan Bewley, a specialist in complex obstetrics at King's College London, has talked of a world in which women take out a fertility insurance policy in their mid-twenties and freeze their eggs, while Dr Amin Gorgy, fertility consultant and co-director at the Fertility and Gynaecology Academy, sees it as his 'duty, as a clinician, to tell people it is better to freeze their eggs before they are 35'.

Djerassi's prediction also ties into work done by the Sens Research Foundation in California, on stem cells. Dr Aubrey de Grey, a stem-cell scientist and co-founder of the organisation, has made rapid progress in stem-cell and regenerative therapies, meaning that current age limits surrounding conception and birth will vanish in the foreseeable future.

In the meantime, bio-identical hormones can already create a unique



Actress Sofia Vergara with ex-boyfriend Nicholas Loeb

'prescription' to help women beat the menopause. While conventional hormone-replacement therapies are man-made or derived from animals, bio-identical forms are derived from plant sources but have the same molecular structure as the body's own. Advocates claim this makes them better tolerated than traditional hormone-replacement therapies.

It sounds like a dystopian vision, but perhaps we're already on the path. Bio-identical hormones are also enjoying a boom in the UK. And according to the body that regulates the fertility industry in this country, the Human Fertilisation and Embryology Authority (HFEA), 580 women froze their eggs in 2012, more than double the numbers in 2009.

Egg freezing – also known as fertility preservation – is a medical procedure in which patients use hormones to stimulate their ovaries to produce more eggs. These are extracted using a needle, before being 'preserved' in liquid nitrogen for a maximum of 10 years.

It's not cheap, carries risks, and is not available on the NHS unless it's for medical reasons (for a patient who needs cancer treatment, for example). The egg-harvesting procedure typically costs £3,000-£5,000 per round in the UK, laboratory storage costs are about £200 per year, then attempting to fertilise the eggs via IVF costs £5,000-£8,000.

But once frozen the eggs remain at the age they were, which is key, as their quality declines as a woman ages. When the patient decides the time is right for a baby, the egg is slowly thawed before being fertilised via ICSI IVF – a procedure in which sperm is injected into the egg – and implanted back into the womb.

Yet the potential pitfalls are numerous and, importantly, there haven't yet been very many live births from frozen eggs.

Between 1991 and 2012, just 21 babies were born in the UK using frozen eggs,

after 253 fertility cycles. 'At least 20,000 eggs have been frozen in the UK,' said Dimitrios Nikolaou, a consultant in reproductive medicine and surgery at Chelsea and Westminster hospital's Assisted Conception Unit. 'There have been 600-700 embryos created, and so far there have been around 150-200 embryo transfers – which is when a fertilised embryo is placed back inside the womb.'

Dr Gorgy says these figures are low as some eggs will have been frozen using outdated 'slow-freezing' techniques, so the eggs were less likely to survive. The figures may also include some women who have not yet chosen to defrost their eggs.

But technology moves on swiftly and it is unlikely egg freezing in 50 years will bear any resemblance to today's procedures. Private clinics are reportedly preparing for a 'tsunami' of young women choosing to freeze their eggs in the future. But if, as Djerassi predicted, this was your only option to have children, you'd need to be sure your eggs would have a high chance of being successfully defrosted before undergoing irreversible sterilisation.

Bio-identical hormones are not without risk, either. Cosmetic doctor Mica Engel believes hormones of any kind (man-made or natural) could expose users to danger. 'Some cancers are considered hormone-sensitive, which means they can have their development stimulated by testosterone and oestrogen respectively,' she said. 'While it is not known if they are able to generate a tumour, they certainly contribute to the development of pre-cancerous lesions.'

Then there's emotional fallout. Fertility preservation has already created modern custody battles. Actress Sofia Vergara and ex-boyfriend Nicholas Loeb created two frozen female embryos in 2013, which Vergara wanted destroyed after the pair split last year. Vergara is now engaged to Joe Manganiello, but because no documentation was issued at the time specifying what should happen in the event of their split, Loeb is fighting for custody of his embryonic 'daughters' in the American courts. While some may find his determination a little creepy, battles such as these look set to become an increasingly common dilemma as reproduction becomes more scientific.

'Delaying pregnancy till the age of 30 carries a six per cent risk of childlessness,' says Dr Gorgy. 'At 35 it's 14%, and if you leave it until you're 40 to try for a baby, 35% of couples will be left childless. As I see it, freezing eggs as young as possible is the only effective form of preventative medicine that can combat this.' ■

'Fertility preservation has already created modern custody battles'