

## Egg freezing in the UK



### OVERVIEW

- There is increasing interest in egg freezing in the UK.
- The Government is considering whether storage limits for ‘social’ egg freezing should be changed from a maximum of ten years. There appear to be few arguments against increasing this limit.
- The way ‘social’ egg freezing is presented and marketed is potentially of concern and should be the focus of closer attention.
- ‘Successful’ egg freezing can be measured in a variety of ways that can be difficult for women to navigate. There is a pressing need for available data on likely success rates to be presented clearly, accessibly, and transparently.
- If more UK companies start to offer egg freezing as an employment benefit, women’s experiences of using such schemes should be a focus of research.

### INTRODUCTION

Egg freezing (EF) is an increasingly popular technology<sup>1</sup> that aims to preserve women’s fertility. Women<sup>2</sup> might have EF for medical purposes, including if they need treatment that affects fertility (e.g., chemotherapy).<sup>3</sup> Women who are worried about their declining fertility might also opt for EF for a range of ‘social’ reasons:

primary among these is not being in a suitable relationship, though other life circumstances may also play a role.<sup>4</sup> This is widely known as ‘social egg freezing’ (SEF).<sup>5</sup> This note provides an overview of key policy, social, and ethical issues around EF/SEF.

## BOX 1. EXAMPLE EGG FREEZING CYCLE<sup>6</sup>

- For around 12 days, self-administered injections of hormones stimulate egg production in the ovaries, aiming to:
  - Stabilise the womb lining;
  - Prevent ovulation when it would usually happen; and
  - Stimulate the ovaries to produce multiple large follicles (which contain eggs).
- Vaginal ultrasounds confirm growth/size of follicles.
- Once follicles are large enough, an injection is given to trigger maturation.
- 36 hours later, mature eggs are collected from the follicles under sedation.
- The eggs are frozen in liquid nitrogen.

### THAWING, IMPLANTING, PREGNANCY, LIVE BIRTH

- When a woman wants to use her eggs, they are thawed.
- Eggs that survive thawing are fertilised through intracytoplasmic sperm injection (ICSI), which injects sperm directly into the egg.
- If embryos develop, 1-2 are transferred to the womb, ideally around day 5, with the aim of achieving a pregnancy and live birth.

## EGG FREEZING IN THE UK: PRACTICE

Even though many clinics offer EF, most takes place in a small number of clinics: in 2018, 67 clinics performed at least one EF cycle, but only five performed over 100.<sup>7</sup> There has been significant growth in EF cycles in recent years: there was a 240% increase from 569 cycles in 2013 to 1,933 in 2018.<sup>8</sup> However, EF comprises only a very small percentage of fertility cycles in the UK.<sup>9</sup>

The average cost of having eggs collected and frozen is £3,350, with additional £500-£1,500 costs for medication.<sup>10</sup> Storage costs are extra and tend to be £125-£350 per year.<sup>11</sup> The NHS will only consider funding EF for medical

reasons,<sup>12</sup> although Scotland is considering NHS-funded SEF<sup>13</sup> and the UK's Health Secretary has indicated an 'instinctive openness' to Government-funded SEF.<sup>14</sup> Healthy under-35s can '**freeze and share**'<sup>15</sup> to receive free/reduced-price treatment if they donate eggs to another patient (if the cycle is successful, resulting children can contact the donor when 18).<sup>16</sup> Women may also **travel abroad**, where treatments may be cheaper,<sup>17</sup> although leaving eggs overseas could be logistically problematic at the point of thawing.<sup>18</sup> SEF cycles can also be **funded by employers** (see below). This is not common in the UK.<sup>19</sup>

## EGG FREEZING IN THE UK: LAW

EF/SEF is governed by the Human Fertilisation and Embryology Act 2008. The HFEA enforces the Act and licenses clinics to store eggs and treat patients. The HFEA first allowed frozen eggs to be thawed/used for treatments in 2000.<sup>20</sup>

### STORAGE LIMITS

Women who have SEF can currently store eggs for 10 years, after which they must be

used or destroyed.<sup>21</sup> (A two-year extension was introduced in response to the accessibility of treatments during COVID-19.<sup>22</sup>) Women who have EF for medical reasons can extend this limit by 10 years every 10 years, up to 55 years. The difference in storage limits between medical EF and SEF has been strongly criticised.<sup>23</sup> The Government is currently deciding if storage limits should change.

## INCREASING STORAGE LIMITS

Positive implications of increasing the limit include:

- Enabling women to freeze at an earlier age, leading to a greater chance of live birth if they decide to use their eggs;
- Providing women with more time to make their own decisions about when and whether to use their frozen eggs;<sup>24</sup>
- Addressing fairness between ‘medical’ EF and SEF; and in terms of gender (men’s fertility does not reduce with age to the same extent as that

of women and is therefore not as affected by time limits).

If the limit is extended, policymakers may have to address:

- Logistical issues (space, record-keeping) if clinics store eggs for longer;<sup>25</sup>
- Risks of potentially inappropriate marketing, especially to younger women (see below);<sup>26</sup>
- Public concerns about increasing older motherhood<sup>27</sup> (although older fatherhood is arguably not subject to the same concerns<sup>28</sup>).

## WHO FREEZES THEIR EGGS?

Most UK women who have SEF are single,

university-educated, and in professional employment.<sup>29</sup>

## WHY DO WOMEN HAVE SOCIAL EGG FREEZING/EGG FREEZING?

Small scale UK studies on motivations for SEF suggest that a **lack of a committed partner** is a common reason for freezing eggs.<sup>30</sup> Women may also want to achieve **financial stability**, or avoid **self-blame** for not having it.<sup>31</sup>

In addition to having EF ahead of medical treatments such as chemotherapy (see above), EF may also precede **gender reassignment**,<sup>32</sup> or **egg donation**.<sup>33</sup> Women may also have ‘**ethical**’ SEF to avoid having unused embryos after IVF.<sup>34</sup>

## WOMEN’S EXPERIENCES OF EGG FREEZING

Some describe EF – which has the same effects as IVF – as **physically unpleasant**,<sup>35</sup> particularly the daily hormone injections that affect mood and create feelings of general anxiety.<sup>36</sup> Available data on how women feel about their experiences of SEF suggest they feel **frustrated** with insufficient information on success rates to inform their decisions on SEF.<sup>37</sup> They may also **mourn** not

being able to pursue motherhood in a way considered ‘the norm’,<sup>38</sup> and can feel **isolated** and **stigmatised** if they do not have a partner.<sup>39</sup> However, a more positive common emotion after having SEF is one of relief.<sup>40</sup> Other women report that SEF made them feel **empowered** and ‘**in control**’ of their reproductive future.<sup>41</sup>

## SUCCESS RATES

There are limited data on pregnancies and live births<sup>42</sup> from EF because of its relative newness as a fertility treatment, and the fact that only a small number of women who have frozen their eggs have returned to use them (see below). Clinics have been criticised for not providing easy access to data that are available, leading women to turn to the media for information instead.<sup>43</sup>

Not all eggs survive **thawing**.<sup>44</sup> If they do, the chance of **live birth** (LB) depends to a large extent on the age at which eggs are collected:

broadly, the chances are higher for eggs frozen before 35.<sup>45</sup> Furthermore, the older the woman, the more eggs needed to have a good chance of a LB.<sup>46</sup> However, in the UK, the most common age for SEF is 38.<sup>47</sup> If storage time limits increase, this might change. Success rates also vary with **clinics’ experience**<sup>48</sup> and **practitioners’ skills**.<sup>49</sup>

Frozen eggs from donors have higher success rates because they tend to be from younger women. If data include **donor** egg cycles, this should be made clear to avoid misinterpretation.<sup>50</sup>

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## RISKS

**Physical risks** are the same as those for any IVF treatment, and include ovarian hyperstimulation syndrome (OHSS),<sup>51</sup> and complications from egg retrieval.<sup>52</sup> When a woman wants treatment to achieve pregnancy, factors such as her age and overall state of health may lead to increased physical risks.<sup>53</sup> For **children** born from EF, congenital abnormality levels are

comparable with children conceived with IVF, or without.<sup>54</sup> However, long-term data are lacking.<sup>55</sup> **Psychological risks** include emotional distress if EF does not work.<sup>56</sup> Deciding whether to have SEF at all<sup>57</sup> can bring further anxieties, although SEF may also *reduce* anxiety through offering the chance of future motherhood.<sup>58</sup>

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## MARKETING/ADVERTISING

Some **clinics' advertising** lacks clarity on success rates, costs, and risks.<sup>59</sup> Advertising in the sector is currently being examined by the Advertising Standards Authority.<sup>60</sup>

Concerns have been expressed about the trivialisation of SEF in media coverage,<sup>61</sup> along with **social media** influencers' promotion of SEF,<sup>62</sup> and the use of algorithms that target

women with SEF adverts.<sup>63</sup> Some clinics have been criticised for irresponsible **marketing strategies**, such as events where SEF is discussed over prosecco.<sup>64</sup> Research suggests women can feel pressure to freeze<sup>65</sup> to avoid blaming themselves later.<sup>66</sup> It is important that marketing strategies consider such research so that women's anxieties are not exploited.<sup>67</sup>

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## ETHICAL ISSUES

### INFORMATION AND INFORMED CONSENT

The law requires women to receive "such information as is proper"<sup>68</sup> before EF. It is also recommended that clinics inform women of (age-specific<sup>69</sup>) success rates<sup>70</sup> including centre-specific expertise and live birth rates (LBR).<sup>71</sup> However, women report difficulties in navigating these data (see above). If women are to make informed choices, they need clinics to be frank about what is known *and* unknown about EF.<sup>72</sup>

### UNUSED EGGS

Long-term data on the proportion of women who return to use their eggs are lacking because EF is still a relatively new treatment and there is uncertainty around whether women who have stored eggs in recent years will return to use them. However, to date, most women have not returned to use eggs frozen for both social and other reasons.<sup>73</sup>

The limited data on why eggs are not used indicate that women do not want to parent without a committed partner, would rather conceive 'naturally',<sup>74</sup> or because they *do* conceive naturally so do not need to use them.

It is important for clinics to discuss with women the potential future use of frozen eggs and help them consider the longer-term implications of freezing.<sup>75</sup>

### EMPLOYMENT BENEFIT

SEF as an employment benefit might be seen as a workplace 'gender equaliser'<sup>76</sup> that has positive effects on women's salaries.<sup>77</sup> However it might also push women to delay motherhood to show commitment to their career<sup>78</sup> in a manner not required of male employees.<sup>79</sup> It has been described as both a bribe for the 'best years' of a woman's life,<sup>80</sup> and a benefit that is unlikely to extend to low-wage workers.<sup>81</sup>

Moreover, offering SEF as an employment benefit is not the only option for employers to support reproductive choice: improvements to family-friendly work environments, family leave, or childcare subsidies<sup>82</sup> could make it easier for women to have children younger. However, such changes would take time, leaving women 'waiting' for employment practices to change while their fertility declines. SEF might therefore either be considered a 'secondary strategy' while wider workplace gender disparities are addressed,<sup>83</sup> or something that diverts attention

from the need to address those disparities. If more UK employers offer to pay for employees to freeze eggs, research on women's experiences of using such schemes would be valuable in informing future policy.

### UNEQUAL ACCESS

Those who undergo SEF are frequently middle-class, highly-educated, and in professional occupations.<sup>84</sup> Access to SEF is limited to those who can afford it, or those willing to get into debt.<sup>85</sup> This means access is unequal, particularly as NHS funding is not available.

### INSURANCE OR GAMBLE?

SEF is sometimes described as insurance against age-related fertility loss.<sup>86</sup> However 'insurance' is only an appropriate term if women are fully aware of the limited chances of achieving a successful pregnancy. Some women have such awareness<sup>87</sup> and do not overestimate the potential of SEF.<sup>88</sup> Others may not, and therefore SEF might better be described as a gamble/lottery.<sup>89</sup>

### COMMERCIALISING AND MEDICALISING FERTILITY DECLINE

The **commercialisation** of SEF has been criticised for giving women false hope about their future chances of a LB (see discussion of marketing/advertising),<sup>90</sup> which could be argued to be exploitative. Other commentators suggest women should be trusted to make their own choices in this commercialised arena if they have access to accurate information.<sup>91</sup> However, such access, as discussed above, is limited.

Discussions on **medicalising** age-related fertility decline include concerns that it could lead to the conclusion that ageing women's bodies have a 'problem' that needs 'fixing', rather than addressing the social context of decisions about timing parenthood (similar arguments are made in discussions around SEF as an employment benefit – see above).<sup>92</sup> It might also give women a perceived responsibility to 'fix' their reproductive ageing to secure a chance of future motherhood,<sup>93</sup> even if they are unsure they want children,<sup>94</sup> or feel ambivalent about it.<sup>95</sup>

### IVF/EF: GENERAL OBJECTIONS

IVF-based treatments are unacceptable to some for moral reasons.<sup>96</sup> Some may also argue SEF reinforces the expectation that childbearing is central to womanhood, promoting sexism.<sup>97</sup>

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## RESEARCH GAPS

Research questions that remain partly, wholly, or unanswered include:

- Do women know EF success is age-dependent?<sup>98</sup>
- What are the experiences of women who return to use their eggs?<sup>9</sup>
- Why do some women choose not to use their eggs?
- What are the experiences of trans and non-binary people who freeze eggs?
- How do children born from EF fare long-term (including psychologically)?<sup>100</sup>
- Why do some women find out about SEF but decide against it?<sup>101</sup>

## THE FUTURE OF EGG FREEZING

The outcome of the **current Government consultation** on storage limits will strongly influence the future of EF/SEF. If the limit is increased, it could lead to women making different decisions about SEF, including, for example, the age at which they decide to freeze.<sup>102</sup> Whether SEF as an employment benefit in the UK takes more of a foothold may also change practice and SEF prevalence.

**Technological developments** that could influence the future of EF/SEF include whether ovarian tissue freezing becomes an alternative to SEF; if stem cell technology advances so that such cells can be developed into eggs and offer an alternative to EF;<sup>103</sup> and how artificial intelligence (AI) will influence EF<sup>104</sup> – including whether it can give women a better indication of their chances of success than currently possible.

## CONCLUSIONS

The **lack of long-term data** on EF/SEF means there is an incomplete picture of success rates, motivations for freezing, and accounts of the experiences of egg-freezers. **Data on success rates** are complicated and difficult to navigate. There is a pressing need for available data on likely success rates to be presented clearly, accessibly, and transparently.

**There are few arguments against increasing storage limits for SEF.** Those that are put forward are primarily against SEF *per se* rather than against an increase to the time limit. **The way EF is presented and marketed is potentially of concern and should be the focus of closer attention.**

If more UK companies start to offer social egg freezing as an **employment benefit**, **women's experiences should be a focus of research.**

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