



RABBI GIDEON

**Machon Puah for Fertility and
Gynecology in Accordance with Halacha**

WEITZMAN

A History of Egg Freezing

Last time we discussed the biological clock that determines the limited time a woman has in order to get pregnant. As a woman gets older she is less likely to get pregnant and more likely to have a pregnancy with a genetic abnormality.

But the age of marriage is increasing worldwide. People are getting married later, and, when they do get married, often postpone having children due to concerns for their career development, academic study, or for financial, personal or medical reasons.

One important development that must be considered is the technology that enables women to freeze their eggs and thus achieve extended fertility.

Let us examine something of the biology and history of egg freezing.

Eggs are the largest cell in the human body. While the nucleus of all cells is about the same size, the egg is larger than other cells since it contains more fluid, or cytoplasm. Many fluids, cytoplasm included, expand on freezing. Until relatively recently, this determined that it was extremely difficult to freeze eggs, as on freezing the cytoplasm expanded and this ruptured the Zona Pellucida, the outer

shell of the egg. In addition, the cytoplasm crystallized thus rendering the egg incapable of being used at a later stage.

A few years ago, a new method of freezing, called vitrification, was developed. This was a method of rapid freezing that prevented the effects of expansion and did not enable the fluid to crystalize. The result was the new technology of egg freezing.

It was initially developed and used to bank eggs in a clinic dealing with egg donations. The problem with such clinics is coordinating the ovulation induction of the donor with the preparation of the recipient to be ready to carry the egg. Egg freezing solved this problem; there was no longer a need to coordinate the timing of the two women. The donor could produce eggs which could then be frozen and stored, and, when the recipient was ready, the eggs could be thawed and implanted.

This program proved to be effective, but the eggs were only stored for a very short period of time. However, it suggested that eggs may be able to be stored for longer periods, under different circumstances, and for a very different purpose.

Thus was born elective egg freezing, in which women froze their own eggs to gain more time to have healthy children at a later date.

More on this next week. ■