

FEATURES

Loss of fertility among cancer sufferers is often overlooked by doctors and patients, who may survive their disease but be left unable to reproduce

BY JANE E. BRODY
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When cancer gets in the way of family planning

If his mother hadn't struck up a conversation with a stranger in a waiting room, Dan Shapiro would never have become the biological father of Alexandra, 13, and Abigail, 9. Dan was a 20-year-old junior in college when doctors diagnosed stage 2 Hodgkin's disease. His treatment was to be six cycles of highly toxic chemotherapy followed by radiation.

He and his mother were waiting in the doctor's office to discuss therapy when his mother began chatting with a woman whose 14-year-old son was being treated for leukemia, Shapiro, now 42 and a professor at Penn State College of Medicine, recounts in his delightful book, *Mom's Marijuana* (Harmony Books, 2000).

"Has he banked sperm?" the woman asked Mrs Shapiro. "He should bank sperm. I had my son do it." To which Mrs Shapiro replied, "I didn't realize the treatment would make him sterile; the doctors haven't said anything."

At Mrs Shapiro's insistence, Dan's treatment was delayed long enough for him to bank sperm, which for a few hundred US dollars a year was kept frozen until he was ready to start a family nine years later.

A NEGLECTED ISSUE

Although more attention is now paid to loss of fertility among cancer patients, it is still too often overlooked by oncologists and patients, who may survive their disease but be left unable to reproduce. Neglect of fertility issues is especially common in cases involving children yet to reach puberty.

Yet in guidelines issued nearly three years ago, the American Society of Clinical Oncology stated that "any oncologist seeing reproductive-aged patients for consideration of cancer therapy should be addressing potential treatment-related infertility with them or, in the case of children, with their parents." The guidelines noted that "sperm and embryo cryopreservation are considered standard practice and are widely available."

What often happens instead is that patients, who are naturally terrified by the diagnosis and focused on survival, fail to ask whether treatment will leave them infertile. And oncologists, who are focused on beginning effective treatment as soon as possible, fail to consider the effects on their patients' future fertility.

The University of North Carolina's Fertility Preservation Program estimates that only a quarter of oncologists nationwide address fertility issues with patients before treatment begins.

In December 2007, Margaret Kresge Poe of Atlanta was 32 and getting ready to start a family with her husband when she was shocked to discover that what she thought were hemorrhoids was stage 3 rectal cancer. The proposed treatment — surgery, chemotherapy and pelvic radiation — would have left her unable to bear children, yet the doctor never mentioned an effect on her fertility.

"It was family members who raised the issue," Poe said in an interview. "At the time, I could barely think straight."

Her treatment was delayed long enough to harvest eggs and have them fertilized and frozen as embryos, and Poe entered a clinical trial that used aggressive chemotherapy but none of the organ-damaging radiation that would have left her infertile.

"Hopefully," Poe said, "we'll have those embryos as real children before long."

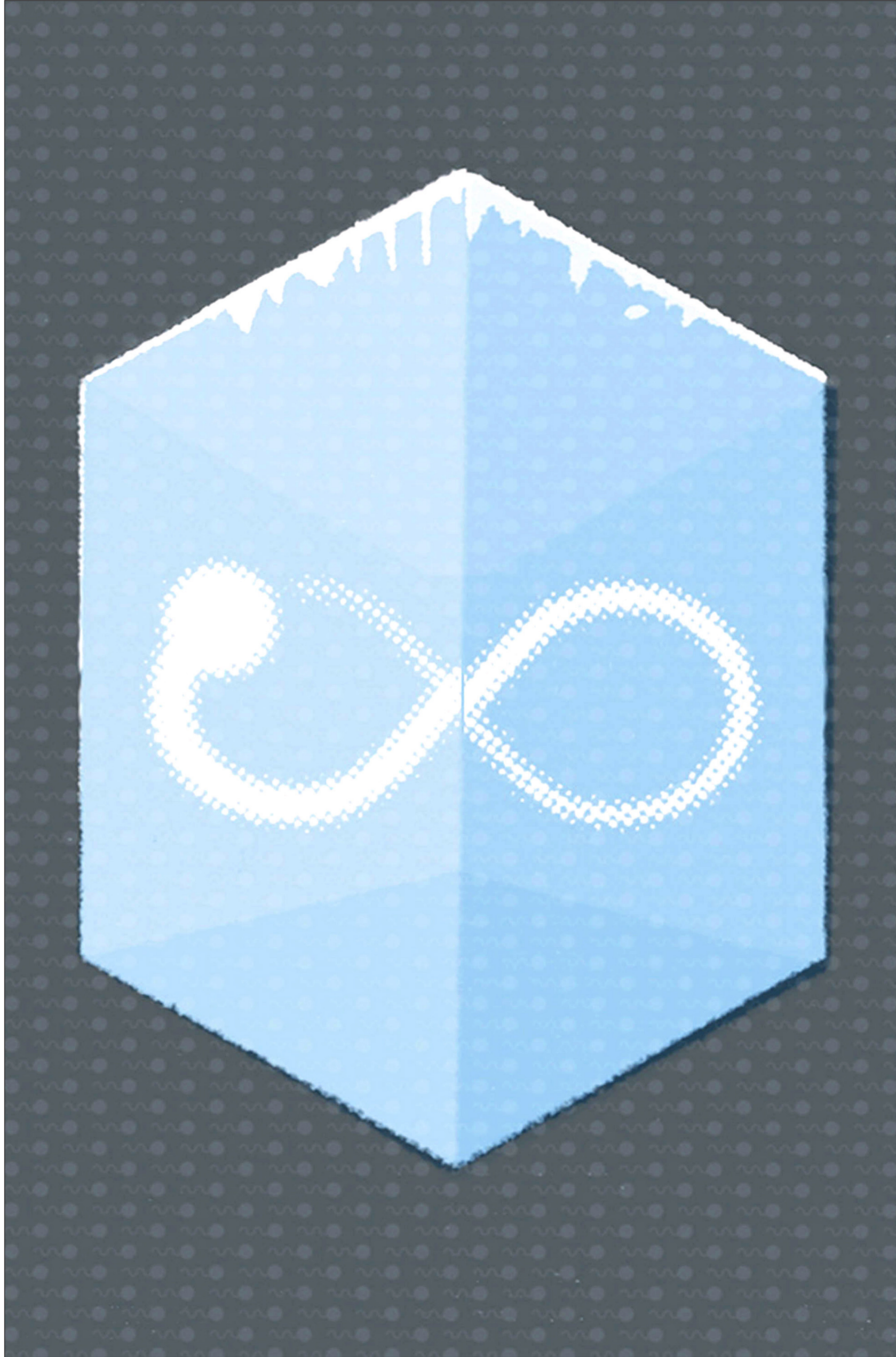


ILLUSTRATION BY TIMES SERVICE

Each year, an estimated 16,000 women younger than 45 find out they have breast cancer, according to a report in February in the *New England Journal of Medicine*.

"Many of these young women were planning to have children or contemplating the possibility," Jacqueline Jeruss and Teresa Woodruff of Northwestern University Feinberg School of Medicine wrote in the journal. "In some, but not all patients, options for the preservation of fertility can be explored before the initiation of therapy."

Complicating matters is the fact that health insurance policies may not cover fertility treatments for women about to be treated for cancer, and out-of-pocket costs for harvesting eggs, creating embryos and having in vitro fertilization can reach tens of thousands of US dollars. Timing is another obstacle; it can take months to secure an appointment at a fertility clinic, and cancer patients cannot wait so long before starting treatment.

FASTER FERTILITY SERVICE

The National Institutes of Health is financing a new program, the Oncofertility Consortium, to help cancer patients concerned about preserving their fertility. The consortium, at myoncofertility.org, is led by the Northwestern researchers and seeks to foster wider attention to and better options for fertility preservation in young cancer patients. Participating health professionals are pursuing technologies to improve fertility options for cancer patients and helping those patients gain access to fertility help.

"Now at 50 sites throughout the country, there are local or regional resources where fertility issues can be taken care of quickly, with minimal delay to starting cancer treatment," Woodruff, a professor of obstetrics and gynecology, said in an interview.

"Women who want to harvest eggs and store embryos can be treated often within a week instead of having to wait months, as typically happens at fertility clinics," she said.

One young patient helped by the consortium was a 16-year-old girl from Southern California who was about to refuse cancer treatment after learning it would leave her sterile. All told, Woodruff said, "about 140,000 cancer patients each year should be told if treatment will damage their fertility and presented with options if this is a concern to them."

Among patients who consult consortium participants, "about one-quarter don't choose fertility-preserving options," she said, "but this decision should be based on up-to-date information about a comprehensive set of options and the ability to act quickly."

OPTIONS FOR MEN AND CHILDREN

For men with cancer, the solution is usually simple and involves little delay: a visit to a sperm bank where a semen sample can be obtained. Sperm can be frozen and stored, remaining able to fertilize an egg for up to 28 years and perhaps longer. Even men who have no sperm in their ejaculate can sometimes undergo a testicular biopsy to isolate sperm, the Northwestern experts said.

Children's cancers are typically treated with highly toxic chemotherapy and often radiation that threatens their future fertility. Yet, the journal authors wrote, "Children with cancer and their families have not typically been offered options for fertility preservation."

Before treatment, boys who have gone through puberty can provide semen samples through masturbation, electroejaculation or surgical sperm extraction. For younger boys, research is under way to see whether freezing sperm-forming stem cells will preserve their future fertility.

Adolescent girls facing the prospect of pelvic radiation can have their ovaries moved temporarily outside the radiation field. Or ovarian tissue can be removed and frozen in hopes that research now being pursued will one day allow viable eggs to be developed in the laboratory.

Say two prayers and call me in the morning

According to researchers in the new field of neurotheology, spiritual practices can change a person's brain in ways that enhance physical health

BY DIANE CAMERON
NY TIMES NEWS SERVICE, ALBANY

You want to live long and look good, so you do everything the experts suggest: You eat salmon, wear sunscreen, lift weights and jog. You floss, eat five portions of fruit and vegetables a day; take your Vitamin D and you pray.

Pray?

Yes, God is now part of a healthy lifestyle. It turns out that God can save your life as well as your soul. According to the newest research on aging and health, we need to hit both the treadmill and our knees on a regular basis. This new push for God isn't coming, as you might expect, from the church folks, but rather from doctors, specifically neurologists.

The timing is perfect because we are a pretty nervous bunch right now. The world is tilting, economy struggling and our fears about it are multiplying.

Andrew Newberg is the spokesman for the new field of neurotheology and his focus, *How God Changes Your Brain*, is also the title of his new book.

In it, Newberg and co-author Mark Robert Waldman delineate extensive research showing the impact of prayer, faith, meditation and, yes, exercise on longevity and health.

In a key section of the book they rank the ways that we can improve our brain function — the overall key to long life. While aerobic exercise is number three, it turns out that the very best

thing you can do for your brain is to have faith.

I know, you hear this and you think, "Oh, the religious nuts again." But no. These guys are not pushing any religion or dogma. When asked if God isn't just a placebo, Newberg points out, "Placebos cure, on average, 30 percent of most physical and emotional illnesses. But you have to believe in the placebo."

Belief is his point.

Can't you just hear this at the gym: "What's your workout?" "Oh, I do 20 minutes on the elliptical, 20 minutes of weights and a couple of rosaries."

Newberg and Waldman know you are laughing but they included an extensive appendix, which lays out all the research. God knows, it's for real. But this begs the question of where and how.

Should we go to church? Organized religion is suffering; churches and synagogues in the US have severely diminishing congregations where the average age is in the high 60s. And there are the scandals and problems and politics. Organized religion is broken; it's a human institution. Someone once compared the Church to Noah's ark saying, "If it weren't for the storm without, you could never stand the smell within."

But there is something else. The selling of belief as self-improvement strikes me as another kind of materialism, albeit a spiritual one. We typically recognize consumerism in the race to bigger houses, cooler cars or the latest technogadget. But maybe in a recession we drop those in favor of other kinds of consumption, like using

God for your own good. In most faith systems, the goal or end point is about turning away from self and toward others: Love your neighbor. Mend the world.

There is a paradox here: Trying to be more spiritual for selfish ends knocks you right off the spiritual path. It's like humility; just when you think you've got it, you don't. But maybe God doesn't care; maybe he's OK with being the bait to catch himself.

We don't have to throw the baby out with the holy water. Now, with this new proof in the existence of belief-brain fitness, we don't have to choose between the church and the gym.

So if you're getting in shape for spring, think of "Him" as Vitamin G.