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How Psychedelic Drugs Can Help Patients Face Death

By LAUREN SLATER

Pam Sakuda was 55 when she found out she was dying. Shortly after having a tumor removed from her colon, she heard the doctor's dreaded words: Stage 4; metastatic. Sakuda was given 6 to 14 months to live. Determined to slow her disease's insidious course, she ran several miles every day, even during her grueling treatment regimens. By nature upbeat, articulate and dignified, Sakuda — who died in November 2006, outlasting everyone's expectations by living for four years — was alarmed when anxiety and depression came to claim her after she passed the 14-month mark, her days darkening as she grew closer to her biological demise. Norbert Litzinger, Sakuda's husband, explained it this way: "When you pass your own death sentence by, you start to wonder: *When? When?* It got to the point where we couldn't make even the most mundane plans, because we didn't know if Pam would still be alive at that time — a concert, dinner with friends; would she still be here for that?" *When* came to claim the couple's life completely, their anxiety building as they waited for the final day.

As her fears intensified, Sakuda learned of a study being conducted by Charles Grob, a psychiatrist and researcher at Harbor-U.C.L.A. Medical Center who was administering psilocybin — an active component of magic mushrooms — to end-stage cancer patients to see if it could reduce their fear of death. Twenty-two months before she died, Sakuda became one of Grob's 12 subjects. When the research was completed in 2008 — (and published in the Archives of General Psychiatry last year) — the results showed that administering psilocybin to terminally ill subjects could be done safely while reducing the subjects' anxiety and depression about their impending deaths.

Grob's interest in the power of psychedelics to mitigate mortality's sting is not just the obsession of one lone researcher. Dr. John Halpern, head of the Laboratory for Integrative Psychiatry at McLean Hospital in Belmont Mass., a psychiatric training hospital for Harvard Medical School, used MDMA — also known as ecstasy — in an effort to ease end-of-life anxieties in two patients with Stage 4 cancer. And there are two ongoing studies using psilocybin with terminal patients, one at New York University's medical school, led by Stephen Ross, and another at Johns Hopkins Bayview Medical Center, where Roland Griffiths has administered psilocybin to 22 cancer patients and is aiming for a sample size of 44. "This research is in its very early stages,"

Grob told me earlier this month, “but we’re getting consistently good results.”

Grob and his colleagues are part of a resurgence of scientific interest in the healing power of psychedelics. Michael Mithoefer, for instance, has shown that MDMA is an effective treatment for severe **P.T.S.D.** Halpern has examined case studies of people with cluster headaches who took LSD and reported their symptoms greatly diminished. And psychedelics have been recently examined as treatment for alcoholism and other addictions.

Despite the promise of these investigations, Grob and other end-of-life researchers are careful about the image they cultivate, distancing themselves as much as possible from the 1960s, when psychedelics were embraced by many and used in a host of controversial studies, most famously the psilocybin project run by Timothy Leary. Grob described the rampant drug use that characterized the '60s as “out of control” and said of his and others’ current research, “We are trying to stay under the radar. We want to be anti-Leary.” Halpern agreed. “We are serious sober scientists,” he told me.

Sakuda’s terminal diagnosis, combined with her otherwise perfect health, made her an ideal subject for Grob’s study. Beginning in January 2005, Grob and his research team gave Sakuda various psychological tests, including the Beck Depression Inventory and the Stai-Y anxiety scale to establish baseline measures of Sakuda’s psychological state and to rule out any severe psychiatric illness. “We wanted psychologically healthy people,” Grob says, “people whose depressions and anxieties are not the result of mental illness” but rather, he explained, a response to a devastating disease.

Sakuda would take part in two sessions, one with psilocybin, one with **niacin**, an active placebo that can cause some flushing in the face. The study was double blind, which meant that neither the researchers nor the subjects knew what was in the capsules being administered. On the day of her first session, Sakuda was led into a room that researchers had transformed with flowing fabrics and fresh flowers to help create a soothing environment in an otherwise cold hospital setting. Sakuda swallowed a capsule and lay back on the bed to wait. Grob had invited her — as researchers do with all their subjects — to bring objects from home that had special significance. “These objects often personalize the session room for the volunteer and often prompt the patient to think about loved ones or important life events,” Roland Griffiths, of Johns Hopkins, says.

“I think it’s kind of goofy,” Halpern says, “but the thinking is that with the aid of the psychedelic, you may come to see the object in a different light. It may help bring back memories; it promotes introspection, it can be a touchstone, it can be grounding.”

Sakuda brought a few pictures of loved ones, which, Grob recalled, she clutched in her hands as

she lay back on the bed. By her side were Grob and one of his research assistants, both of whom stayed with the subjects for the six-to-seven-hour treatment session. Sakuda knew that there would be time set aside in the days and weeks following when she would meet with Grob and his team to process what would happen in that room. Black eyeshades were draped over Sakuda's face, encouraging her to look inward. She was given headphones. Music was piped in: the sounds of rivers rushing, sweet staccatos, deep drumming. Each hour, Grob and his staff checked in with Sakuda, as they did with every subject, asking if all was O.K. and taking her **blood pressure**. At one point, Grob observed that Sakuda, with the eyeshades draped over her face, began to cry. Later on, Sakuda would reveal to Grob that the source of her tears was a keen empathetic understanding of what her spouse, Norbert, would feel when she died.

Grob's setup — the eyeshades, the objects, the mystical music, the floral aromas and flowing fabrics — was drawn from the work of Stanislav Grof, a psychiatrist born in Prague and a father of the study of psychedelic medicine for the dying. In the mid-'60s — before words like “acid” and “bong” and “Deadhead” transformed the American landscape, at a time when psychedelics were not illegal because most people didn't know what they were and thus had no urge to ingest them — Grof began giving the drug to cancer patients at the Spring Grove State Hospital near Baltimore and documenting their effects.

Grof kept careful notes of his many psychedelic sessions, and in his various papers and books derived from those sessions, he described cancer patients clenched with fear who, under the influence of LSD or DPT, experienced relief from the terror of dying — and not just during their psychedelic sessions but for weeks and months afterward. Grof continued his investigations into psychedelics for the dying until the culture caught up with him — the recreational use of drugs and the reaction against them leading to harsh antidrug laws. (Richard Nixon famously called Timothy Leary “the most dangerous man in America.”) Financing for psychedelic studies dried up, and Grof turned his attention to developing alternative methods of accessing higher states of consciousness. It is only now, decades later, that Grob and a handful of his fellow scientists feel they can re-examine Grof's methods and outcomes without risking their reputations.

Norbert Litzinger remembers picking up his wife from the medical center after her first session and seeing that this deeply distressed woman was now “glowing from the inside out.” Before Pam Sakuda died, she described her psilocybin experience on video: “I felt this lump of emotions welling up . . . almost like an entity,” Sakuda said, as she spoke straight into the camera. “I started to cry. . . . Everything was concentrated and came welling up and then . . . it started to dissipate, and I started to look at it differently. . . . I began to realize that all of this negative fear and guilt was such a hindrance . . . to making the most of and enjoying the healthy time that I'm having.” Sakuda went on to explain that, under the influence of the psilocybin, she came to a very visceral understanding that there was a present, a now, and that it was hers to

have.

Two weeks after Sakuda's psilocybin session, Grob readministered the depression and anxiety assessments. Over all among his subjects, he found that their scores on the anxiety scale at one and three months after treatment "demonstrated a sustained reduction in anxiety," the researchers wrote in *The Archives of General Psychiatry*. They also found that their subjects' scores on the Beck Depression Inventory dropped significantly at the six-month follow-up. "The dose of psilocybin that we gave our subjects was relatively low in comparison to the doses in Stanislav Grof's studies," Grob told me. "Nevertheless, and even with this modest dose, it appears the drug can relieve the angst and fear of the dying."

Lauri Reamer is a 48-year-old survivor of adult-onset leukemia. Before the leukemia, she was an anesthesiologist and a committed agnostic who believed in "validity" and "reliability," the scientific method her route to truth. Reamer recalls the morning when all that changed, when, utterly depleted, she bumped her leg on a railing and saw a bruise rush up, livid on her pale flesh; it was then she knew something was terribly wrong. After that came the diagnosis, the bone-marrow biopsies, the terrible trek toward a recovery that was tentative at best. "I believed I was going to die," Reamer told me.

Reamer made it through the leukemia — or, rather, she went into remission — but the illness and the brutal bone-marrow treatments she underwent left a deep mental scar, a profound fear that the cancer would return made it difficult to experience any joy in life. Her illness was lurking around every corner, waiting to haul her away. "When I was near death, I wasn't so afraid of it," Reamer said, "but once I went into remission, well, I had an intense fear and anxiety around relapse and death."

It was in the midst of this fear that, one day in May 2010, Reamer learned about Griffiths's study at Johns Hopkins. For years, Griffiths had been studying the effects of psilocybin on healthy volunteers. He wanted to see if particular doses of the drug could induce mystical states similar to naturally occurring ones: think Joan of Arc or Paul on the road to Damascus. Griffiths says that he and his research team found an ideal range of dosage levels — 20 to 30 milligrams of psilocybin — that not only reliably stimulated "mystical insights" but also elicited "sustained positive changes in attitude, mood and behavior" in the study volunteers. Specifically, when Griffiths administered a psychological test called the Death Transcendence Scale at the 1- and 14-month follow-up, he saw subjects' ratings rise on statements like "Death is never just an ending but part of a process" and "My death does not end my personal existence."

"After transcendent experiences, people often have much less fear of death," Griffiths says. Fourteen months after participating in a psilocybin study that was published in *The Journal of Psychopharmacology* last year, 94 percent of subjects said that it was one of the five most

meaningful experiences of their lives; 39 percent said that it was *the* most meaningful experience.

Wondering whether he could see the same shifts in attitude in terminally ill patients, he designed a study that gave subjects a high dose of psilocybin (higher than Grob had given) in one session and a dose that varied from subject to subject in a second session. Because the study is continuing, Griffiths did not want to discuss the precise amounts of the drug given, but said that “dose selection in the cancer study is informed by what we have learned in the prior studies.”

At the end of September 2010, Lauri Reamer took her first dose of psilocybin. “I mostly just cried through that session,” she says. Three weeks later, she went back to Johns Hopkins for her second dose. She remembers a lovely room with a large plush couch. Griffiths entered and wished her well. Reamer had pictures of her children and items that reminded her of her recently deceased father, and after swallowing the psilocybin capsule, Reamer sat with two study coordinators and looked at the memorabilia. She talked about what each item meant to her, waiting for the drug to take effect, assessing her own internal state. “And then it happened,” she told me. “I was at first sitting up on the couch and talking about my daughter’s baby blanket, which I’d brought with me, and then I went supine. They dimmed the lights. I got dark eyeshades. They put headphones on me, and music started pouring into my ears. Some dark opera. Some choral music. Some mystical music. There was a bowl of grapes; they were big juicy grapes,” Reamer says, and she remembers the sweetness, the freshness, the tiny seeds embedded in the gel.

Once the drug took effect, Reamer lay there and rode the music’s dips and peaks. Reamer said that her mind became like a series of rooms, and she could go in and out of these rooms with remarkable ease. In one room there was the grief her father experienced when Reamer got leukemia. In another, her mother’s grief, and in another, her children’s. In yet another room was her father’s perspective on raising her. “I was able to see things through his eyes and through my mother’s eyes and through my children’s eyes; I was able to see what it had been like for them when I was so sick.”

Reamer took the psilocybin at about 9 a.m., and its effects lasted until about 4 p.m. That night at home, she slept better than she had in a long time. The darkness finally stopped scaring her, and she was willing to go under, not because she knew she would come back up but because “under” was not as frightening. Why she was less afraid to die is hard for her to explain. “I now have the distinct sense that there’s so much more,” she says, “so many different states of being. I have the sense that death is not the end but just part of a process, a way of moving into a different sphere, a different way of being.”

After Reamer's psilocybin experience, she separated from her husband. Eventually, she stopped practicing medicine. She started regularly meditating. She bought a house. "I read somewhere that, with my kind of leukemia, even if I stay in remission, the most I have left is 15 or 20 years. So that's my sentence. But after I die, well, there could be a next phase. I believe that now."

Researchers acknowledge that it's not clear how psilocybin reduces a person's anxiety about mortality, not simply during the trip but for weeks and months following. "It's a bit of a mystery," Grob says. "I don't really have altogether a definitive answer as to why the drug eases the fear of death, but we do know that from time immemorial individuals who have transformative spiritual experiences come to a very different view of themselves and the world around them and thus are able to handle their own deaths differently."

"On psychedelics," Halpern says, "you have an experience in which you feel there is something you are a part of, something else is out there that's bigger than you, that there is a dazzling unity you belong to, that love is possible and all these realizations are imbued with deep meaning. I'm telling you that you're not going to forget that six months from now. The experience gives you, just when you're on the edge of death, hope for something more."

If psilocybin can so reliably induce these life-altering experiences, why have the hundreds of thousands of Americans who have taken magic mushrooms recreationally not had this profound experience? Grob explains that in addition to the carefully controlled setting of these studies and the opportunity to process the experience with the researchers, the subjects are primed for transcendence before they even take the drug. "Unlike the recreational user, we process the experience ahead of time," Grob says. "We make it very clear up front that the hoped-for outcome is therapeutic, that they'll have less anxiety, less depression and a greater acceptance of death." Subjects, in other words, intend to have a transformative experience. Grob says that psilocybin taken in this setting is "existential medicine."

For all the eloquence of these explanations, however, something feels fuzzy about a phenomenon in which a cancer-ridden patient takes a pill and overcomes her fear of death not just for the moment but for weeks and months that follow. A recent British study, published in *The Proceedings of the National Academy of Sciences* earlier this year, may begin to help us understand what might be happening here. In this study, David J. Nutt, a psychiatrist at the Imperial College London, and his team used an **M.R.I.** to scan healthy volunteers dosed on psilocybin in order to "capture the transition from normal waking consciousness to the psychedelic state." The researchers found that the states of "unrestrained consciousness" that accompany the ingestion of psilocybin are associated with a deactivation of regions of the brain that integrate our senses and our perception of self. In depressed people, Nutt explains, one of those regions, the anterior cingulate cortex, is overactive, and psilocybin may work to shut it

down. Nutt is planning a study in which he will give psilocybin to individuals with treatment resistant depression and see whether the drug can ease some of depression's most recalcitrant symptoms.

Perhaps end-stage cancer patients are able to capture enduring benefits of psilocybin precisely because they are processing their drug experiences again and again with research staff and in doing so are changing the way the brain encodes positive memories. The phenomenon might be similar to how other memories work; when we remember something sweet-smelling, the olfactory neurons in our brain start to stir; when we remember running, our motor cortex begins to buzz. If this is the case then merely recalling the trip could resurrect its neural correlates, allowing the person to re-experience the insight, the awareness, the hope.

Because Grob and other psychedelic researchers are careful to separate their scientific work from the shadow of the 1960s, they have a complicated relationship with a psychedelic advocate named Rick Doblin, the founder and executive director of the Multidisciplinary Association for Psychedelic Study (MAPS), located in Santa Cruz, Calif. Doblin is not a psychiatrist — his advanced degree in public policy is from Harvard's Kennedy School — and his mission is to legalize psychedelics so they can be prescribed for “a wide range of clinical indications.” Doblin says, in addition, “these substances should be available for things that are not diseases, like personal growth, spirituality, couples' counseling.”

Despite their differing stances, MAPS and researchers meet at many points. Doblin, for instance, has F.D.A. approval to do a study on the psychological effects of MDMA when taken by healthy volunteers. His subjects will be therapists who are taking part in a MAPS program that teaches them how to guide their clients through psychedelic journeys. Doblin also worked closely with the Swiss researcher Dr. Peter Gasser in investigating the safety and efficacy of LSD-assisted psychotherapy for subjects with anxiety stemming from life-threatening illnesses.

“Rick Doblin has done a lot for the field, but he is more of a populist,” Grob says. “We need careful and controlled scientific studies showing the efficacy of these drugs so funding can continue.” Broader awareness of these sorts of end-of-life psychedelic studies could be good for everyone, the researchers say. “If insurance companies knew about our outcomes, they might get a lot more interested in what we're doing here.” Griffiths continued: “When you make people less afraid to die, then they're less likely to cling to life at a huge cost to society. After having such a transcendent experience, individuals with terminal illness often show a markedly reduced fear of dying and no longer feel the need to aggressively pursue every last medical intervention available. Instead they become more interested in the quality of their remaining life as well as the quality of their death.”

In a future still far off, Grob imagines retreat centers where the dying could have psilocybin

administered to them by a staff trained for the task. Doblin asks: “Why confine this to just the dying? This powerful intervention could be used with young adults who could then reap the benefits of it much earlier.” The subjects who have undergone psilocybin treatment report an increased appreciation for the time they have left, a deeper awareness of their roles in the cycle of life and an increased motivation to invest their days with meaning. “Imagine allowing young adults, who have their whole lives in front of them, access to this kind of therapy,” Doblin says. “Imagine the kind of lives they could then create.”

If David Nutt, in Britain, is able to prove the efficacy of psilocybin for treatment-resistant depression, would the F.D.A. ever consider approving it for that use? And if that ever were to happen, what sort of slippery slope would we find ourselves on? If, say, end-stage cancer patients can have it, then why not all individuals over the age of, say, 75? If treatment-resistant depressives can have it, then why not their dysthymic counterparts, who suffer in a lower key but whose lives are clearly compromised by their chronic pain? And if dysthymic individuals can have it, then why not those suffering from **agoraphobia**, shut up day and night in cramped quarters, Xanax bottles littered everywhere?

Halpern is not particularly worried about this theoretical future, in large part because he doesn't see much hope for psilocybin as a medicine. “There's no money in it,” he says. “What drug company is going to invest millions in a substance widely available in our flora and fauna?” Grob has a more practical response, suggesting that, in our theoretical future, drugs like psilocybin should be reserved for only those who have no other alternatives. “There's a lot of good treatment for depression,” he says. “And anxiety too. A drug like psilocybin, or maybe psilocybin itself, should be reserved for those who have no other treatment options.”

Besides, Grob told me, scientists are still at the very early stages of this research. “Twelve people,” he says of the size of his study. “One study with 12 people is not very definitive.” And yet, talking to him, you can hear a hint of excitement, something rising. “We saw remarkable and sustained changes in cancer patients' spiritual dispositions. People's entire sense of who they are has been altered in a positive manner.” He is looking forward to the day, he told me, when Griffiths and Ross “crunch their numbers” from their current studies. Grob says, “From what they say they're seeing, it all sounds very positive.” Perhaps, then, we need not understand precisely how and why psilocybin works, accepting, as Halpern puts it, that “when you combine the chemical, the corporeal and the spiritual, you get a spark. You get magic.”

Lauren Slater is the author of “Opening Skinner's Box: Great Psychological Experiments of the Twentieth Century.”

This article has been revised to reflect the following correction:

Correction: April 22, 2012

An article on Page 56 this weekend about the use of psychedelic drugs as part of the treatment for patients with terminal diseases misspells, in two instances, the surname of a cancer patient who was given one of them, psilocybin. As the article correctly notes elsewhere, she was Pam Sakuda, not Saduka. And an earlier version of this correction misspelled psilocybin as psylocybin.



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