

# Rush's Remedies

Two centuries after its publication, Founding Father and early Penn faculty member Benjamin Rush's pioneering work on mental illness prompts alarm and admiration—as well as reminders about ongoing challenges in the mental-health field. **BY SUSAN FRITH**

*Blessed science! Which thus extends its friendly empire, not only over the evils of the bodies, but over those of the minds of the children of men.* —BENJAMIN RUSH

**The** 44-year-old Virginia man could not sleep over the din of his own heartbeat. In fact, he reported, his mind was so distressed that “the least noise” felt “like a shock of thunder, so that for seven years I have been in the constant habit of stopping both ears with wax.”

In a letter to Dr. Benjamin Rush, the patient explained that his problems began when he was suddenly attacked by “impious and profane ideas” while reading religious material. Now he couldn't even turn to the Good Book for comfort.

Rush reflected the anguish of such patients when he sat down 200 years ago to write his pioneering tract on mental illness, *Medical Inquiries and Observations Upon Diseases of the Mind*.

Unfortunately, warned Rush, those are not the worst symptoms of “hypochon-

driasis.” In the depths of their despair, some patients go on to hurt or kill themselves. “I should lay down my pen and bedew my paper with my tears, did I not know that the science of medicine has furnished a remedy for it.”

In the following pages, Rush listed no fewer than 20 remedies for the syndrome. His book includes dozens more treatments for patients in the throes of all kinds mental distress, including the manic, the grief stricken, and those suffering from a “morbid state of the sexual appetite.”

Just how much comfort the afflicted drew from Rush's care likely depended on which treatments they endured. Depending on their diagnoses, patients might have been prescribed exercise on horseback, strapped onto a spinning table, or bled until their ravings stopped (and their pulses plummeted).

“It really is a mix of things,” says Robert DeRubeis, chair of Penn's psychology department and the Samuel H. Preston Term Professor in the Social

Sciences. *Diseases of the Mind* includes treatments that therapists “would never do today” because they're inhumane, ineffective, or theoretically unsound. “They range from alarming to eyebrow-raising to bemusing when you read about them,” DeRubeis says. “But then there are another set of treatments he describes that are perfectly sensible—some of which are in quite widespread use today and some of which should be in more widespread use.” (For a look at how effective some of Rush's remedies probably were, see “Restored to Reason” on page 51.)

Despite its many flaws, Rush's book “was so complete and so unique a study of mental diseases that it remained the only comprehensive American study on the subject for seventy years, and was the foundation upon which superseding studies incorporating scientific advances were based,” writes Alyn Brodsky in his 2004 biography, *Benjamin Rush: Patriot and Physician*. “We can attribute to Rush's



tranquillity

Removal

Spum

Exercise

Cold

Music



efforts more innovation in the hospitalizing and treatment—above all, the understanding—of the mentally afflicted than to any other physician of his time.”

Though the mental-health field has seen numerous advances since 1812, Rush’s struggle to make sense of the mysteries of the mind and relieve patients’ suffering resonates with Penn practitioners facing 21st-century challenges. One professor, DeRubeis, even draws parallels between Rush’s well-intentioned overreaching and the overprescription of antidepressants today.

According to Steven Peitzman C’69, a nephrologist and Drexel University medical professor who travels around the country lecturing about the history of American medicine, *Diseases of the Mind* came out at a pivotal time. Though a pious individual, Rush was a product of the 18th century Enlightenment, which emphasized the importance of rational thought and recognized the natural causes of disease. Other influences were the humanitarian efforts of the Philadelphia Quakers—and later, the work of Quaker physicians in England, who “believed the spark of the divine to be in everybody,” including the mentally ill.

**The man who would become the father of American psychiatry**, among other achievements (Rush also signed the Declaration of Independence, served in the Continental Congress, and championed women’s education, penal reform, and the abolition of slavery) was born on a farm 12 miles from Philadelphia in 1746. After the death of his father, a gunsmith, when he was five, Rush’s mother opened a grocery to help support the family. When he was just 15, Rush graduated from the College of New Jersey (later Princeton) with a bachelor’s degree and a gift for oratory. He planned to pursue law until an uncle dissuaded him from a career “full of temptations” and urged him to study medicine instead, writes biographer Alyn Brodsky. At the time there was no medical school in America, so Rush entered a six-year apprenticeship with Philadelphia physician John Redman, eventually substituting for the doctor when he took ill.

(During the latter part of this period, according to a biographical note on Rush on the University Archives and Records Center website, he also “attended the first lectures of John

Morgan and William Shippen, Jr. at the newly founded department of medicine in the College of Philadelphia,” one of the University’s predecessor institutions. Penn’s first-in-the-nation medical school was founded in 1765.)

Rush’s mentor Redman subscribed to the theories of 17th-century English physician Thomas Sydenham, who argued that “disease resulted from an accumulation of ‘morbific matter’ in the body that could be drained only by bleeding, purging, or sweating.” Much to his disadvantage, Brodsky writes, “Rush never abandoned his belief in bleeding—which, as can be imagined often caused the patient’s death quicker than the disease it was meant to ameliorate ...”

Rush continued his training abroad, earning a degree from the most prestigious medical school of the day, the University of Edinburgh, where he came under the influence of William Cullen. Cullen taught that all diseases stemmed from problems in the nervous or vascular systems.

Systems thinking dominated medicine at this time, according to Steven Peitzman. Many physicians, including Rush, believed that one set of principles could be used to explain most diseases.

In 1783 Rush joined the medical staff of the Pennsylvania Hospital, combining his duties there with a growing private practice and faculty appointments at Penn’s medical school, where he was a professor from 1769 until his death in 1813. When Rush arrived at Pennsylvania Hospital there were 24 “lunatics”—most of them shackled in dank basement cells. Rush was appalled by their treatment.

“Prior to Rush’s time, information on psychiatry and the treatment of the insane was practically nonexistent, as was any book [on the subject] either written or published in America,” writes Brodsky. “With few exceptions, there were no facilities for the insane.” Those who weren’t jailed with criminals or forced into almshouses were simply left to wander.

When Pennsylvania Hospital was established in 1751, its founders at least had the intention of treating mentally ill patients, according to Stacey Peeples, the hospital’s curator and lead archivist. “We were stepping away from a lot of superstitions and a lot of beliefs around witchcraft, or that people were somehow being punished by

## LEAN ON ME— IN A HEALTHY WAY

**IN** *Medical Inquiries and Observations Upon Diseases of the Mind*, Benjamin Rush states there are only two reasonable

**fears: death and surgery.** Dianne Chambless, Merriam Term Professor of Psychology, wouldn’t go that far, though she can understand the tight focus of Rush’s statement.

“If you’ve ever been in the old operating room of Pennsylvania Hospital and seen the hammer they used to conk people on the head with [before there was] anesthesia, you’d think it’s pretty reasonable to be afraid of surgical intervention.”

What interests Chambless more is Rush’s recommendation that fearful patients have someone keep them company the night before surgery. “We call that social support today,” she says. “We all need support from those we’re most intimate with.” With that in mind, she is investigating how patients’ family relationships affect anxiety-treatment outcomes.

Family dynamics can impinge on treatment in two ways, Chambless says. “One, if the family is meaning to be helpful but is actually overprotecting the person who is afraid ... they keep the patient from progressing in treatment.” Her second concern is when family members engage in destructive and critical talk. “We think this arouses a lot of negative emotion that feeds into whatever psychopathology people have.”

To study these issues Chambless interviews patients’ relatives. “I remember one husband who said [of his wife], ‘I don’t know what rock she crawled out from under. She’s a wacko.’ That kind of contempt is a pretty bad sign. We also bring patients and their relatives into the lab and ask them to talk about problems in their relationships on camera, and we review those videotapes for the nature of their interaction.” She’s found an average of one criticism in every 70 seconds of face-to-face interaction. Sometimes the problems can be resolved by helping family members learn to talk with one another.

“People who live with people who have psychological problems are under a great deal of strain,” she says. “It’s remarkable how well many people deal with that, without blaming them.”

God for [their conditions],” she says. Guided by Enlightenment principles, “they were going to ... start to think about how to cure people. The problem was they didn’t have any great ideas yet.

“One of the beliefs that was a carry-over [from earlier times] was that the mentally ill were impervious to hot or



cold,” Peeples adds. The hospital managers, “of course, were running a business, and they figured, ‘Why should we bother to heat their rooms?’” When Rush came along, he argued that patients’ health would improve if steps were taken to enhance their basic living conditions. “So the board of managers agrees to it, [and] of course there were much better outcomes than in prior years, because they were not freezing.” At Rush’s urging, a separate hospital wing for the insane was built in 1797.

Touting his own good deeds, he wrote: “The clanking of chains, and the noise of the whip, are no longer heard in their cells. They now taste of the blessings of air, and light, and motion, in pleasant and shaded walks in summer and in spacious entries, warmed by stoves, in winter, in both of which the sexes are separated, and alike protected from the eye of the visitors of the hospital.”

Extending the ideas of Cullen, his old mentor from Edinburgh, Rush proclaimed insanity to be a disease situated in the blood vessels of the brain. He divided its “remote or exciting” causes into those that acted directly on the body (such as epilepsy, a fall from a horse, or the “solitary vice” of onanism) and those that acted on it indirectly, through the mind (including intense study, ridicule, and the “unexpected loss of money”). Rush’s cures were intended to work in both ways, as well—through the body or the mind.

A document of its time, *Diseases of the Mind* is full of remedies that would make the 21st-century reader drop her smelling salts (if she still carried them), including the advice that physicians pour cold water up the sleeves of disobedient patients or use terror as a treatment. Peeples asks, “Can you imagine anyone today in hospital administration saying [to a patient]: ‘You want to drown? Let me get some water for you.’”

Rush insisted on bleeding early and often—a position that had already scarred his reputation in the Yellow Fever Epidemic of 1793, when critics said his liberal use of the lancet contributed to many of the victims’ deaths.

The medical practice of bleeding actually goes back to the time of the ancient Greeks, Peitzman says. “Some people think it persisted in part because at one time febrile diseases were so common—diarrheas,

pneumonias, tuberculosis. When somebody has a fever, their heart rate is increased,” he explains. “The notion of bleeding was to tap off this excess energy.”

According to DeRubeis, many of the positive mental-health outcomes Rush claimed from bleeding and other treatments probably resulted from the placebo effect. Either that, he says, or patients were so “derailed” that their weakened state was mistaken for a cure.

Rush also invented a contraption called the Tranquilizer for restraining and calming deranged patients. “I tell people to think of an electric chair, but with a box on your head,” Peeples says. Although no shocks were delivered, patients would be strapped into an upright position, where they might remain for several hours, in order to reduce vascular pressure in the brain. Rush at least saw to it to provide a close-stool half-full of water underneath the chair, where patients could deposit their “alvine evacuations.”

According to Brodsky, the Tranquilizer was soon discontinued because of the injuries it caused. As a symbol of early medical follies, the device is easy to mock. But other treatments Rush advocated have endured for two centuries. He had the insight, for example, that patients who worked fared better than those who were inactive.

In one of the doctor’s anecdotes, a patient recovered from his afflictions after helping out with his family’s hay harvest. “He worked for some time and brought on thereby a profuse sweat, which soon carried off his disease,” Rush writes.

By championing ideas such as the benefits of work, Peeples notes, Rush acted as a bridge between the old way of doing things and a new, “moral treatment” that would flourish when Pennsylvania Hospital opened a division of the insane in 1841 under the leadership of Thomas Kirkbride. (In addition to expanding occupational therapy Kirkbride took other steps to enhance patients’ dignity, such as producing “magic lantern” shows on various topics to entertain them and stimulate their minds, and in his *On the Construction, Organization, and General Arrangements of Hospitals for the Insane*, first published in 1854, Kirkbride would provide the guidebook for mental hospitals up through the beginning of the 20th century.)

## THERAPIST OR COACH?

**The** patient that Dr. Paul Grant was interviewing for a research project years ago had the typical disorganized speech of a schizophrenic.

Grant, now research assistant professor of psychiatry at the Aaron T. Beck Psychopathology Research Center in Penn’s Perelman School of Medicine, could hardly understand what the man was saying.

Then, all of sudden, the patient said, “I’m 52 years old. Where’s my wife? Where’s my kids? Where’s my house?”

At the time, Grant recalls, he was surprised. “There it is, in the middle of the cloud of psychosis: basic human goals.” Since then Grant has come to realize that this is actually the norm in schizophrenia. “Even very disorganized and seemingly confused patients have goals.”

Encouraging schizophrenia patients to set and meet goals is one of the main tools Grant uses in cognitive therapy, along with helping them “overlearn” positive messages about themselves to block out the negative ones, engage in pleasurable activities, and reflect on their own enjoyment. Such approaches have resulted in better outcomes than antipsychotic medications and standard therapy alone in low-functioning schizophrenics, according to a study authored by Grant last year in the *Archives of General Psychiatry*.

Medication is no panacea for a disorder that brings hallucinations, speech disturbance, apathy, and social withdrawal, he points out, and it can produce unpleasant side effects.

Because schizophrenics are so often taken care of by other people, he tries to empower his patients to do more for themselves. Even something as seemingly mundane as learning to operate a coffeemaker might be practiced many times until the patient (who typically struggles with memory loss) masters the task.

“We’re really like coaches, as opposed to therapists,” working with patients to break goals into “manageable pieces,” Grant says. “Say a patient wants to finish a degree, but he or she can’t read. “The first step might literally be when they come see you each week [to] read just a sentence or two to see that they can do it. Each time you have them read a little more.” For the next step, the patient could sit in on a lecture.

A decade ago, Grant might have said that schizophrenics have to be on medication; however, recent European studies show that some patients actually manage better without it. “What I don’t know is if there are some people for whom that is not possible,” he says. “The main point is that medication is [only] part of the treatment package. Trying to keep it at a minimum is definitely a good thing and [so is] trying to build in all these other things that can help a person have mastery over their own situation and realize as much potential as they can.”

## FACING DOWN FEARS

**E**dna Foa was once in a car accident, and though the Penn professor of clinical psychology wasn't badly hurt, her car was totaled. As shaken as she was by the experience, she got back behind the wheel. "I learned you don't get into a car accident every day, so it's OK."

By facing her fears, Foa kept from developing post-traumatic stress disorder. Many people who have been through traumatic experiences aren't so lucky, including an estimated 200,000 to 400,000 veterans of Iraq and Afghanistan.

Foa, who runs the Center for the Treatment and Study of Anxiety in Penn's Perelman School of Medicine, is a leader in the use of prolonged exposure (PE) therapy to treat PTSD sufferers and people with obsessive-compulsive disorder. She was named one of *Time* magazine's "100 Most Influential People in the World" in 2010 for her efforts to disseminate this treatment to mental-health professionals internationally and to those who work with military-combat veterans.

"If you have a traumatic experience, it makes a lot of sense that you would try to avoid contact with something that reminds you of it, because it's painful," she explains. "Those avoidances are actually perpetuating a perception that ... the world is extremely dangerous." For returning soldiers, that might mean avoiding highways, because they were dangerous in Iraq, or pushing away bad memories of combat.

By gradually exposing themselves to anxiety-producing situations and revisiting traumatic memories to create a more accurate, and forgiving, narrative of the past, patients manage to loosen PTSD's grip over their lives.

About 30 studies point to PE's effectiveness, with an average of about 80 percent of patients recovering from PTSD. Still, it's hard to change the habits of therapists used to treating the disorder in more traditional ways.

Foa is now looking for ways to enhance exposure therapy so patients get better results from fewer sessions, and to disseminate PE theory to more practitioners around the world.

Paul Grant, a Penn research assistant professor of psychiatry who works with schizophrenic patients, says he uses some of the very same strategies that Rush used, such as finding out patients' favorite pastimes to break through the haze of their illness, and encouraging them to become more physically active and volunteer. "This is the beginning of modern psychiatry—this gentleman and his work."

Edna Foa, a professor of psychology

and expert on post-traumatic stress disorder and obsessive-compulsive disorder, criticizes many of Rush's outdated approaches. She believes the doctor was on to something, however, when he discussed fears, making the distinction between those that are reasonable (such as a fear of death) and those that are not (such as a fear of the dark). "I think he had a good notion that to get over an unreasonable fear, you have to be exposed [to the source of fear]," she says. "This was a lot [of years] before Freud," who divided fears into three categories of anxiety—realistic, moral, and neurotic. "There was no theory, to my knowledge, no systematic discussion of unreasonable and reasonable fears" in Rush's time. "I think what he's observing is quite astute."

For Dr. Martin Seligman Gr'67, the Zellerbach Family Professor of Psychology and director of Penn's Positive Psychology Center, what elevates *Diseases of the Mind* above a "quaint historical" document is the following prescription for hypochondriasis:

*Destruction of the old association of ideas. Every thing a hypochondriac patient sees or hears, becomes tintured with some sad idea of his disease... Change therefore his dress, his room, his habitation, and his company, as often as possible.*

"Destruction of the old association of ideas" is quite directly what modern Cognitive Therapy seeks to do," Seligman writes in an email—for example, "by challenging (destruction) the belief (old association) 'I am a loser' with realistic evidence that you got 'almost straight A's,' Cognitive Therapists are direct, if unconscious, descendants" of this approach.

If Rush's treatments seem all over the place, one must appreciate that this was a man trying to wrap his mind around a tremendously complex problem before there was such a thing as the *DSM (Diagnostic and Statistical Manual of Mental Disorders)*. "He was covering the waterfront," says DeRubeis. "He was trying to figure out how to get each [patient] from point A to point B. The range of people he was thinking about is incredible. From these little tests and anecdotes comes the evolution of psychology and psychiatry."

**In November 1812**, just five months before he died, Rush wrote a letter to an old friend, the former President John Adams:

*Herewith you will receive a copy of my Medical Inquiries and Observations upon the Diseases of the Mind. I shall wait with solicitude to receive your opinion of them. They are in general accommodated to the "common science" of gentlemen of all professions as well as medicine. The subjects of them have hitherto been enveloped in mystery. I have endeavored to bring them down to the level of all the other diseases of the human body, and to show that the mind and body are moved by the same causes and subject to the same laws. For this attempt to simplify the "medicina mentis" I expect no quarter from my learned brethren.*

Rush must have felt both hope and frustration as he looked toward the future of the field he was pioneering and sensed its limitations (or perhaps his own). His quest to relieve human misery was a personal as well as a public one. Rush's eldest son, John, had been admitted to Pennsylvania Hospital in 1810, after he killed a friend and fellow naval officer in a duel. (His mental health would never improve enough for him to leave the institution.) But perhaps the seasoned doctor took some consolation in his own closing words:

*But time I hope will do my opinions justice. I believe them to be true and calculated to lessen some of the greatest evils of human life. If they are not, I shall console myself with having aimed well and erred honestly.*

**Few would doubt** the doctor's noble aims. But for all the developments since Rush's day, there remains much to be learned about mental illness.

According to Grant, "The dream of psychiatry is that we will have illnesses such as schizophrenia cured within 50 years—understood genetically and neurobiologically, with treatments following from this understanding. However," he notes, "the same dream existed 200 years ago."

DeRubeis links some of Rush's overzealous remedies to a concern in men-

# Restored to Reason

*Benjamin Rush had many ideas for easing the suffering caused by mental disorders. But did any of them work? We decided to ask some current Penn therapists to weigh in on the subject. Here are a few of the recommendations Rush offers in his seminal 1812 volume, Medical Inquiries and Observations Upon Diseases of the Mind, followed by their comments.*

## FOR GENERAL INTELLECTUAL DERANGEMENT

■ **“Confinement** by means of a strait waistcoat, or of a chair, which I have called a tranquilizer. He submits to them both with less difficulty than to human force. The tranquilizer has several advantages over the strait waistcoat or mad shirt. It opposes the impetus of the blood towards the brain, it lessens muscular action every where, it reduces the force and frequency of the pulse, it enables the physician to feel the pulse and to bleed without any trouble, or altering the erect position of the patient’s body; and, lastly, it relieves him, by means of a close stool, half filled with water, over which he constantly sits, from the foeter and filth of his alvine evacuations.”

**ROBERT DERUBEIS:** I don’t think anyone goes along with Rush’s theories about blood to brain impetus. But the straitjacket does have two actions: ... Obviously, it protects those taking care of a person. It’s also believed to allow the person to use their own internal resources to calm down if they’re in the midst of manic fit or a peak of schizophrenia. Most people in modern times don’t think about it anymore as something that’s much done for mental illness, but in some hospitals there is felt the need to have such devices around for such a purpose.

**MICHAEL THASE** (professor of psychiatry): The [Tranquilizer] chair he came up with didn’t survive the test of time.

■ **Bloodletting:** “From 20 to 40 ounces of blood may be taken at once, unless fainting be induced before that quantity be drawn. It will do most service if the patient be bled in a standing position. The effects of this early and copious bleeding are wonderful in calming mad people. It often prevents the necessity of using any other remedy, and sometimes it cures in a few hours.”

**DERUBEIS:** Bloodletting has gone away, thank goodness, although what was its main effect perhaps was its weakening or tranquilizing effect. They didn’t have access to the range of pharmacopeia we have.

**THASE:** It’s not life threatening [in this amount], but it would be enough to provoke lightheadedness. It just kind of rolled out of your arm into a bowl, so I would think that not only the physiologic shock of losing that much blood, but also the sight of it ... had a kind of startling effect on some people.

■ **“Low diet,** consisting wholly of vegetables, and those of the least nutritious nature ...”

**DIANNE CHAMBLESS:** Copious bloodletting would calm people down because they would be in a stupor and a really poor diet would starve a person into relative tranquility. That all sounds pretty awful.

■ **Solitude and darkness.** “The passions become weak by the abstraction of company, and by refraining from conversation. For this reason, visitors should be excluded from the cells and apartments of highly deranged people ... Darkness ... invites silence, and it induces a reduction of the pulse, by the abstraction of the stimulus of light, and by the influence of fear, which is naturally connected with darkness.”

**PAUL GRANT:** There’s a lot of evidence that this makes psychosis worse, [increasing] delusions and hallucinations and disorganization.

■ **Cold.** “The hair should be cut off, and shaved from every part of the head ... we not only expose the head to a greater degree of cold, but we favour by it, at the same time, depletion from the brain, by means of insensible perspiration.

“Cold water should be applied ... to the head ... by means of cloths, or a bladder, to which ice, when it can be obtained, should be added ... The coldness should be continued for several days and nights. The signal for removing them should be when they produce chilliness, and sobbing or weeping, in the patient.

“In order to derive benefit from the application of cold water to the whole body, it should be immersed in it for several hours.”

**THASE:** There is some calming effect through the process of bathing [and being] immersed in cold water. Interestingly, various kinds of states of excitement are associated with increased blood flow and increased energy utilization in regions of the brain, so it’s not far-fetched to think a cooling intervention might have a calming effect. A former colleague of mine at the University of Pittsburgh is looking at a forehead-cooling device to deal with chronic insomnia.

■ **Diversion.** “Divert the ruling passion or subject which occupies the mind, if it be one, and fix it upon some other... In order to do this, it will be necessary to find out the favourite studies and amusements of our patients ... The distracted mind of the poet Cowper was composed while he was employed in the single business of translating Homer; and I have heard of a woman who was cured of madness, by keeping her constantly employed for several days in playing cards.”

**GRANT:** This is really rock solid stuff. It is fundamental to the type of treatment we are doing with [schizophrenic patients] ... A huge part of rehabilitating them is to reconnect them with things they used to enjoy. It makes them feel less like patients and more like regular persons ... You can spend all day being paranoid or grandiose, depending on which [form of schizophrenia] you have, but if you do something you enjoy—playing a game, going to a movie, whatever—you have less time to be psychotic. [I have one] patient who’s completely withdrawn and sleeps all the time. One of the things we’re doing is getting her back into interaction with other people by playing cards.

■ **“Terror** acts powerfully upon the body through the medium of the mind. I once advised gentle exercise upon horseback, in the case of a lady in Virginia who was deranged. In one of her excursions from home, her horse ran away with her. He was stopped after a while by a gate. The lady dismounted, and when her attendants came up to her they found her, to their great surprise and joy, perfectly restored to her reason.”

**CHAMBLESS:** Stress is not good for people with schizophrenia.

**GRANT:** This seems to be almost a Hegelian approach to treatment: These symptoms are so strong and intense, you have to have something equally strong and intense to abate them. They used to give patients camphor to induce convulsions to calm psychosis. But camphor can also kill you. Many of the people who have psychoses also have symptoms of trauma. They’ve [already] been terrorized by other people.

## FOR HYPOCHONDRIASIS

■ **Activity.** “Man was made to be active ...Hypochondriac derangement has always kept pace with the inactivity of the body and mind



which follows wealth and independence in all countries ... Building, commerce, a public employment, an executorship to a will; above all, agriculture, have often cured this disease.”

**GRANT:** This is one of the main interventions we’ve been using with people who have negative symptoms. They’re not motivated to do very much. This is what keeps them out of the mainstream of life ... This is true for depression, too. There’s a sense in which these people say, “I’ll start doing stuff when I feel better.” It turns out that *as you do stuff*, that’s how you start to feel better. We find a way to help them become more active, to volunteer ... helping other people.

■ **Amusements.** “The chase, shooting, playing as quoits, are all useful for this purpose. ... The theatre has often been resorted to, to remove fits of low spirits ... Certain animals suspend the anguish of the mind of this disease by their innocence, ingenuity, or sports. Mr. Cowper sometimes found relief in playing with three tame hares, and in observing a number of leeches to rise and fall in a glass with the changes in the weather.”

**DERUBEIS:** We don’t do that much anymore ... [we] increasingly see these kinds of activities ... as being avoidant. [For example, with] panic disorder, [people] used to think it was good to do this diversion thing, because ... it basically puts a governor on the panic ... People came along and said no, that simply reinforces the idea that one can’t tolerate the panic experience and one must get away from it, as opposed to one must ride it out and understand it’s not a big deal.

■ **“Music** has often afforded great relief in this disease ... I attended a citizen of Philadelphia, occasionally in the paroxysm of this disease, who informed me that he was cured of one of them by hearing the old hundred psalm tune sung in a country church ...

**GRANT:** Music is like a fundamental thing that doesn’t seem to go away. I’m working in a hospital with 24 chronic [schizophrenia] patients [who] don’t express a lot of emotion. Often they don’t feel like doing anything. Once a week there’s a music group. They all want to do it. They sing along, play drums. You would think, all of a sudden, that none of these people seem [mentally ill].

**FOR MANALGIA** (*characterized by “taciturnity, downcast looks, a total neglect of dress and person, long nails and beard, disheveled or matted hair, indifference to all surrounding objects, insensibility to heat or cold.”*)

■ **Exercise (and the Gyrator).** “This should consist of swinging, seesaw, and an exercise discovered by Dr. Cox, which promises more than either of them, and this is, subjecting the patient to a rotary motion, so as to give a centrifugal direction of the blood towards the brain ... I have contrived a machine for this purpose in our hospital, which produces the same effects upon the body ... These are vertigo and nausea, and a general perspiration. I have called it Gyrator. ... It produces great changes in the pulse. In one experiment made with it, it increased the pulse from 84 to 88 strokes in one minute, and to 120 in two minutes ...”

■ **Labor.** “It has been remarked that the maniacs of the male sex in all hospitals, who assist in cutting wood, making fires, and digging in a garden, and the females who are employed in washing, ironing, and scrubbing floors, often recover, while persons, whose rank exempts them from performing such services, languish away their lives within the walls of the hospital.”

**DERUBEIS:** It’s been shown that exercise, period, is a treatment for depression.

**CHAMBLESS:** He’s onto something that exercise and labor are important for people who are depressed. To be occupied is to not be left to constantly dwell on their misfortune and how horrible they are. I don’t know that subjecting [patients] to centrifugal force is something we would suggest, but exercising does have an effect on depression.

#### **FOR DERANGEMENT OF THE PASSIONS** (*grief*)

■ **Opium.** “It should be given in liberal doses in its first paroxysm, and it should be repeated afterwards, in order to obviate wakefulness.”

■ **Silent company.** “In their first visit to persons recently bereaved of their relations, they should imitate the conduct of Job’s friends, who ... the sacred historian tells us, ‘sat down with him upon the ground, seven days and seven nights, and none spake a word to him, for they saw his grief was very great.’ ... in this way, grief most rapidly passes from the bosom of the sufferer into that of his friend.”

■ **Removal.** “The persons afflicted with grief should be carried from the room in which their relations have died, nor should they ever see their bodies afterwards. They should by no means be permitted to follow them to the grave ... After the expiration of the weeks of mourning, care should be taken never to mention the names of the deceased persons to any of their friends.”

**CHAMBLESS:** None of these things I would recommend. We don’t want people to dwell 24 hours a day on their loss, but you do want them to acknowledge it and feel their sorrow and get through it. I had contact very early in my career with a woman who had a stillborn child. They kept her doped up in the hospital and disposed of the body before she woke up ... Nobody in her family ever talked to her about this child. She stayed at home mostly because she couldn’t bear seeing people out with baby carriages. She never dealt with this grief.

#### **FOR DERANGEMENT OF THE PASSIONS** (*fear*)

■ **Darkness.** “The fear which is excited by darkness may easily be overcome by a proper mode of education in early life. It consists in compelling children to go to bed without a candle, or without permitting company with them until they fall asleep.”

■ **Teaching.** “The fear of ghosts should be prevented or subdued in early life by teaching children the absurdity and falsehood of all the stories that are fabricated by nurses upon that subject.”

**FOA:** This child is going to scream and scream and scream, and finally will fall asleep, but it can take hours. We don’t do it like this now. In the beginning we let the child sleep with a dim light and then, in several days, maybe we can put a light in the corridor ... And maybe if it’s a small child, we will give him his favorite toy or stuffed animal to sleep with ... So we take it gradually instead to avoid misery.

I think he had a good notion that to get over an [unreasonable] fear, you have to be exposed [to it]. You cannot just tell a person not to fear the darkness and they’re OK. They have to experience that what they’re afraid of doesn’t happen.

Simply teaching [children] the absurdity of [ghost] stories ... may not help. Maybe what we need to do with little children is to kind of do magic: “OK, we will just tell the ghosts to go away. Those ghosts listen to Mommy.” We use methods that would be commensurate with the developmental age of the child.—S.F.

## A STIMULATING CONCEPT FOR DEPRESSION RELIEF

**The** middle-aged sales manager who found his way into a Penn research study complained of diarrhea and sexual side effects from the antidepressants he'd been taking. Eager to try something new, he traded his meds for a seat, five mornings a week, in something that looked like a dentist's chair. But no drilling was involved.

Instead, he remained there for about an hour each time, while a coil placed against his scalp used low-level magnetic energy to set off changes in his brain circuits. "By the end of the first week, he seemed a little brighter and thinking a little more clearly," recalls Dr. Michael Thase, professor of psychiatry and chief of the Division of Mood and Anxiety Disorders Treatment & Research Program. "By the second week he was definitely better—maybe his symptom-level had improved by 50 percent. By the third week, he was profoundly better."

For patients who can't tolerate or get little relief from antidepressants, Transcranial Magnetic Stimulation (TMS) is a promising new option, says Thase. TMS is safe and doesn't come with the complications of a procedure like electroconvulsive therapy, which works by inducing seizures in the brain and requires patients to be under general anesthesia.

The procedure is painless, though some patients report feeling an odd tapping sensation in their forehead or jaw. A bigger issue is keeping patients from falling asleep "just out of boredom," Thase says. "We try to keep people awake, just in case, because the relationship between the regions of the brain is changed if you fall asleep." Researchers don't know yet how this would affect the procedure. (It might even improve it.)

Thase has also conducted research on another neuromodulation therapy, called Direct Brain Stimulation (DBS), which involves implanting tiny wire electrodes into different regions of the brain. In a recent DBS study at Penn, more than half of patients improved significantly, but not as rapidly as hoped. It remains an experimental treatment.

In contrast, a few insurance plans are beginning to cover TMS, and Thase believes more will cover it over time—in carefully monitored situations and after medication has been tried. Researchers are still working to achieve a better patient-treatment match.

Unfortunately, says Thase, the patient who fared so well during his course of TMS treatment found his old symptoms returning after the treatment ended. He had to return for follow-up sessions on a less frequent schedule.

Thase and his colleagues are about to begin a new study of TMS. One of the questions they're hoping to answer is whether the use of magnetic resonance imaging to better pinpoint the "sweet spot" to target in the brain's prefrontal cortex produces better results.

tal-health treatment today: "When a person of sound mind, such as Benjamin Rush, observes individuals who are functioning very poorly and are miserable as a result ... it brings out an urgency to do something, to take some kind of action, because it's just too hard to watch." Today, he believes, that commonly takes the form of primary-care doctors overprescribing antidepressants to their patients. "The doctor who is sensitive and aware and concerned looks at someone and says, 'My goodness, this person is in pain, I've got to do something' ... which is provide a prescription for pretty much any complaint a patient has. It's very hard not to do that."

DeRubeis calls the overuse of antidepressants "a big puzzle, a big problem"—not one that requires "big solutions, but more sensible solutions."

Edna Foa believes that researchers have made huge strides in some areas of mental health. "I think we know a lot about treating anxiety disorders. That doesn't mean every patient can be treated, but that's also true about high blood pressure," she says. "We have had amazing success with PTSD, with phobias ... We have developed treatment protocols which can be taught and disseminated to a large number of people."

Schizophrenia, on the other hand, has not been "one of medicine's success stories, Grant points out. "There does not appear to be a few genes that are going to account for most of the heritability. (It looks like it could be hundreds, if not more, with each conferring very little in terms of the likelihood of developing the disorder.)"

On top of that, he notes, "the more research that returns on the medications, the better we see that the placebo effect is substantial, the drug beats placebo only modestly, and that the vast majority of schizophrenia patients either do not respond at all or show quite a substandard response."

Interestingly, what does seem to offer promise for schizophrenia as well as other mental disorders is the "human side of treatment," Grant says. "Rush [already] knew some of what my team has learned [about the importance of] having a meaningful place within the

## EXERCISE BEFORE RX

**IN** Benjamin Rush's day, the symptoms of mental illness that might put a patient under his care were pretty severe. He described one clergyman who "lost his appetites and passions, so as to desire and relish nothing, and to love and hate no one." So far gone was the man that "he lost all sense of years, months, weeks, days, and nights."

Today, says Robert DeRubeis, chair of Penn's psychology department and the Samuel H. Preston Term Professor in the Social Sciences, "when a person is not quite within the norm in terms of their mood or behavior or sense of self, we've brought those into the arena of things that must be addressed" with psychotherapy or medication. But both come with costs—either in dollars, side-effects, or time spent seeing a therapist each week.

DeRubeis has been studying how the health system can more sensibly help patients with mild-to-moderate symptoms take charge of their depression.

The milder side effects of today's antidepressants, combined with the decreasing stigma of mental illness, has made patients less resistant to seeking treatment. While increased awareness is a good thing, "it's also led to expectations that we should never feel depressed or sad," DeRubeis says. "I'm not for sad, but it can be a part of human life and it needn't be a big part of human life."

Assuming that a person's depression is not severe, exercise, proper diet, and a reengagement with work, recreation, and social activities should be tried first, DeRubeis says.

Far from feeling a threat to their profession, he thinks, psychologists "could be very helpful in designing and overseeing and participating in these systems that would bring the most effective and efficient care in the places where people are getting their treatment, whether anybody likes it or not—in the primary-care setting."

social structure, having friends, [and] having meaningful work."

Grant saw this in a patient for whom the key to feeling better "was essentially serving coffee and being a short-order cook at her mental health center." Volunteering and helping other people "made it so she could ignore her voices and so she could get up in the morning.

"This must be something Rush observed," says Grant. "Human nature hasn't changed since the 1800s." ♦

**Susan Frith is a former Gazette staffer and a freelance writer based in Orlando.**