

ADHD makes its own shadow

Twenty years ago, when **Rick Ostrander** set out to study ADHD and depression in children, he was like one of the first whiskers on a teenager's chin, standing out, mostly on his own. The boundaries of ADHD were still being plumbed. And at the time, even the idea of children having genuine depression was questioned. "The old psychoanalytic view was that kids couldn't be clinically depressed," Ostrander says, "because they lacked a well-developed super-ego."

In the intervening years, Ostrander, who directs Hopkins' pediatric medical psychology, helped show that some children with attention deficit hyperactivity disorder do indeed suffer from depression or its milder dysthymic cousin. Now his work is aimed at discovering why. And the answers are beginning to shape ways to lessen the likelihood of mood disorders.

On a broad scale, Ostrander's research aims to see ADHD in a truer light, not just as a freestanding illness but as one nestled in potential "comorbidities." Children with ADHD are also prone to behavior that's antisocial, to academic failure and to having accidents. "But there's very little research to tell us the best way to treat these coexisting problems, not much for clinicians to rely on," says Ostrander. "And having that is key to helping these children."

As for depression: Research says the link between it and ADHD is strong. One large U.S. study suggests 14 percent of kids with the attention disorder also suffer depression, though Ostrander believes that's con-



"Perhaps these kids are too accurate about how the world views them," says psychologist Rick Ostrander. "If we could help them change in certain ways, the world might follow suit."

servative. Is the combination gene-based? There is overlap in potential genes for both disorders. But Ostrander's work clearly points to a causal relationship: Having ADHD can lead to depression.

Recently, he and his team conducted several community-based studies, surveying parents, children and teachers in inner-city Baltimore and in a middle-class suburb of Minnesota. Some studies were cross-sectional, a single-time snapshot of a population; others followed the children longitudinally.

What stood out from interviews and surveys, Ostrander says, was the role of specific psychosocial elements—inconsistent parenting, social difficulties and academic problems—in the unfolding depression in kids with ADHD. "The idea, if you have

ADHD," he explains, "is that it can *lead* to parents not responding to you predictably, to other kids not liking you very much, to teachers saying you're unreliable or careless and marking you as 'difficult.' This filters back to a child early on as overwhelmingly negative feedback." And the unhappy fruit of this acid rain is a negative mood.

As children get older and more cognitively aware—what's called formal operational thinking—the feedback gets taken personally, says Ostrander. There's a special kicker in having the realization *I can't prevent what happens to me* if you're biologically unable to regulate your behavior or emotions. All this cements what's now a negative mindset that, along with a lack of control, paves the way for depression.

"Fortunately, these things are *malleable!* We're finding you can do something about parenting, for example," says Ostrander, who has a soft spot for ADHD parents. "They have to be exceptionally disciplined. But the more hyperactive and impulsive the child, the more difficult that becomes," he shrugs. Studies show, however, that girding parents with behavioral modification techniques can help. If a child's acting out lessens, for example, that can trip a cascade that turns up the perception of control and turns down depression.

"And if we can treat the younger kids whose brains are more plastic and social exchanges more fluid, there's probably some element of preventing long-term unhappiness." ■

For information: 410-614-6339



Adult ADD: TBD

"I worry," says psychiatrist **Ray DePaulo**, "about patients who are diagnosing themselves and asking their primary care doctors to treat them for adult attention deficit disorder." His concern, he says, stems from the real possibility that they instead suffer from depression or one of the psychiatric disorders that short-circuits concentration. And that raises the possibility of inappropriate therapy.

Ritalin, the most common medication for attention disorders, "isn't particularly good for depression," says DePaulo, who's treated mood disorders some 30 years. "In fact, it would be just what you *didn't* want if, for example, you're in an irritable, manic state from bipolar disease."

Clinicians in Britain, Europe and Australia also have doubts, he adds, and are wary of adult ADD diagnoses made by U.S. colleagues.

No one questions that children can suffer severe ADD that's obvious by the time they start school—*before* then, many parents say—and that stimulants help them "enormously," DePaulo explains. But the adult condition "puts us in the soup." A number of the already-diagnosed adult ADD patients he examines weren't seen in childhood for the problem. They report that attentional troubles only became severe enough to see a doctor in their teens, usually when a depression surfaced.

So, are these people at the low end of the ADD curve—those with a developmental disorder so mild that they've been able to compensate most of their lives, until a depression struck? Is this a new adult illness? Or is it "simply" depression in high-functioning people who're especially undone by losing concentration?

The heart of the problem, DePaulo says, is that in adults, ADD as a distinct disorder is difficult to diagnose. That it requires expert psychiatric assessment and ongoing care is clear. ■

Food for thought

A better mindset helps bariatric surgery succeed

PAGE 2



The mind as mentor

New book looks at how brain workings invent mental health, illness.

PAGE 3

Best friends forever

The buddy system thwarts addiction.

PAGE 4

Channeling karma

The South Asian Wellness Clinic puts patients at ease.

PAGE 4

Bariatric surgery: a case of mind over matter

You pull yourself up from bed with your cane one morning, your wife ties your shoes and you inch to the recliner, catching your breath. Then comes surgery, and some months later you awake, not sure which is more astonishing: that you've lost the weight equivalent of an 8-year-old or that it's your body that's taking dance lessons.

"The ability of bariatric surgery to alter patients' lives is incredible," says psychologist **Janelle Coughlin**, and scenarios like this continue to draw prospective patients to hospitals. "Yet though it's generally a positive step," she adds, "many people discount the idea that they could end up in a worse place after surgery if they don't comply with the proper regimen."

Instilling a realistic mind set and a right attitude is part of Coughlin's role as head of a behavioral medicine program at Hopkins, one that offers services for patients with a variety of weight-related issues. Most patients, so far, come seeking surgery: They can't be accepted for it without a psychological signoff. Last year, for example, Coughlin screened more than 250 patients.

Taking a psychiatric history and evalu-

ating mental status are, not surprisingly, part of the screening, since two-thirds of severely obese patients have at some time suffered a psychiatric illness, mostly major depression. Yet it's not so much the presence or absence of illness that's a concern for the surgery, Coughlin says, as how well it's managed. "So untreated or unstable major depression are a concern," she says. "If someone had a major event in the last year, like attempting suicide, surgery should wait."

Likewise, she also screens for activities that could derail postsurgery success. "I look for patterns or clusters of behaviors," Coughlin explains. "I wouldn't necessarily deny patients, say, who binge-eat once a month. That would likely be helped by the surgery. If it's more frequent, however, or if patients also eat from an emotional need, then they need to understand their relationship between mood state and food. We help raise awareness of both internal and environmental triggers for their eating."

Coughlin does reality checks, starting with the surgical informed consent. The belief that the surgery is both simple and a



"When a patient admits that weight loss is a process and not an event," says Janelle Coughlin, "that's what I hope to hear."

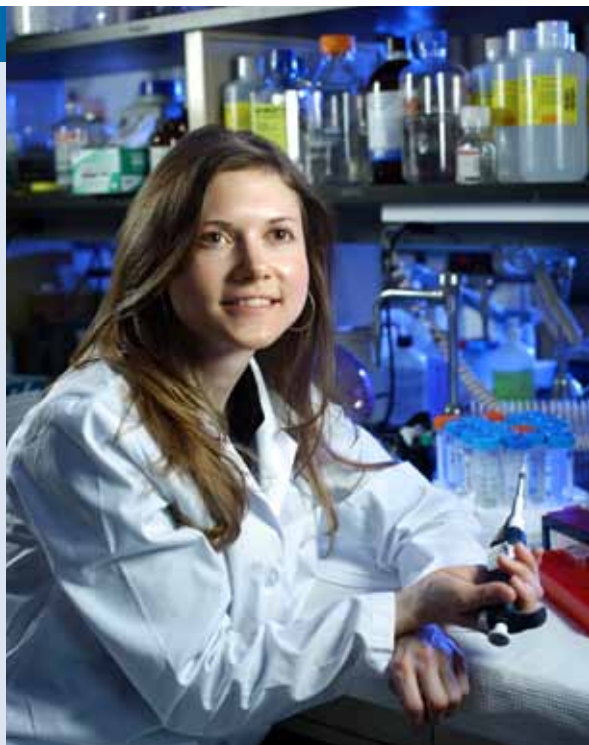
cure-all isn't unusual. But the operations—there are several types—are complex. The most-performed "Roux-en-Y" procedure, for example, bypasses much of the stomach and upper small intestine and fashions new connections. And afterward, the joyful anticipation of losing roughly 50 percent of excess weight can be tempered by an

inability to eat and drink simultaneously or to eat a favorite cheesesteak. For many, their most reliable comfort in life has gone.

"So we help patients identify these challenges before surgery," Coughlin says, "emphasizing the positive outcomes while honestly describing the work that can lie ahead." Because it's impractical for Coughlin to treat every patient she could clear for surgery, she refers those needing ongoing therapy to the program's psychiatrist **Hochang Lee** or psychotherapists **Jill Varelli** and **Maura Murphy**.

Because Coughlin also researches maintaining weight lost through lifestyle changes—she's an investigator on several national trials—she's well aware of the struggles of some bariatric patients several years after surgery. She's now working to apply the lessons learned to them. ■

For information: 410-550-6337



With specific brain areas so difficult to target, neuroscientist Megan Dailey is investigating an intestinal route for eating-based problems.

The "Roux-en-Y" gastric bypass, the most common surgery for severely overweight adults, is a dramatic procedure—it disconnects a third of the digestive tract. But it's also highly effective. Patients can shed roughly half of their life-threatening poundage. Type II diabetes can fade away.

Now the operation has been embraced by Hopkins researchers as a tool to clarify how the body regulates eating, says **Megan Dailey** with Psychiatry's behavioral neuroscience lab. By adding to what's already known of hunger and satiety, she explains, studies that mimic the gastric bypass might

TRANSLATIONAL SCIENCE

Embraceable Roux

A common surgery could clarify eating disorders while it mends obesity.

one day let surgeons retire it for something far simpler.

More than that, benefits could extend to psychiatry, says Dailey, a neuroscientist: "What we learn will go to increase understanding of eating disorders," she says. There's a possibility of new classes of more finely targeted drugs to help counteract anorexia's or bulimia's physical effects.

But what about "the Roux" makes it a tool? "It's that the operation sheds light on a hard-wired satiety mechanism in the small intestine," Dailey explains.

"Nobody has known exactly why the surgery causes weight loss," she says. The fact that most of the stomach is stapled off would seem to be a reason. Patients literally can't eat much. But the main effects—and what intrigues Dailey—likely stem from the additional "removal" of the upper small intestine. In bypassing the duodenum, where proteins, fats and sugars are broken down, the food that enters the lower gut (the jejunum) is now less well-digested. There aren't so many amino acids, for example, as longer protein fragments. Also, more nutrients hit the jejunum than before the surgery.

What all that does, she's found, is trigger the release of appetite-influencing hormones.

In a new study, Dailey and colleagues set rats up to model effects of the gastric bypass, gently infusing either small amounts of glu-

cose, linoleic fatty acid or fragments of casein protein directly into the jejunum.

During the infusion and afterward, the team monitored how much the rats ate. Animals given glucose or the fatty acid had a significant drop in eating—a skipped meal, actually—maintained through the five days of testing. The rats lost weight. And most interesting was increased output of GLP1 and PYY, two intestinal hormones proven to decrease eating.

"We believe this closely reflects what happens in humans after a Roux-en-Y," she says. "It suggests that part of the benefits come because specific nutrients hit the lower intestine and trip hormones which make you less hungry."

But Dailey believes the surgical effects are broader: Research suggests long-term changes occur in intestinal cells, ones that could prolong the more healthful eating habits. "Could you get an obese person's intestine to behave like a lean person's simply by altering what it's exposed to?" she wonders. Her work to explore a long-term Roux-like infusion of nutrients is under way.

Perhaps a coated capsule of the right fatty acid could slip unscathed through the upper GI tract to deliver its "payload" to the jejunum. Or perhaps, she says, a bioactive drug could directly mimic the hormones for the desired effect.

"These," Dailey says, "are the cool possibilities that drive our work." ■

For information: 410-955-2996.

Trouble in mind

New book turns an evolutionary eye on psychiatry

“Pundits periodically pitch spitballs at my profession,” psychiatrist **Dean MacKinnon** prefaces his new book, *Trouble in Mind*, referring to those who yowl that psychiatric drugs aren’t cures, that psychotherapy is “a scam,” and the like. If such critics “could only spend a month on the wards and see how treatment restores life to suffering patients... perhaps,” he says, “they would shed their ignorance.” But when critics call the present-day theory behind modern psychiatry “a rickety edifice... ungrounded in psychology and neurobiology,” it’s different. MacKinnon believes they have a point.

And so begins the concise text he wrote—200 pages if you skip the appendices—to set psychiatry in a more useful place for helping patients. It’s one that keeps psychiatry in touch with evolutionary biology, and one that sees the mind as a functional construct—a vulnerable one—that the brain cooked up to increase survival. That psychiatry continues to help people isn’t at question. But with a fresh perspective—he calls it an “unorthodox view of mental life and mental illness”—it could do much more.

We asked MacKinnon to discuss his new book. The associate professor of psychiatry and behavioral sciences has been in practice almost two decades.

What prompted you to write this?

A. Our past Psychiatry chair, Paul McHugh, describes what we do as “medicine without a William Harvey.” I’ve taken that as a kind of challenge. Harvey described cardiac circulation well, yet he had no knowledge of how capillaries connect arteries to veins. He experimented, then ultimately put his theory out there without being able to

connect all the pieces. Today we lack a Harvey because Psychiatry hesitates to build a theory that considers any mechanisms we can’t yet demonstrate scientifically. But we may have to suspend scientific scruples a little because we and our patients need some explanation for their symptoms, some rational idea why they do or don’t respond to treatment, even if explanations include educated guesses without every detail filled in.

You’ve created a hierarchy of the brain’s workings based on what you know about how it operates as an organ. And as a psychiatrist, you explain how upsets at each level can distinctly contribute to mental illnesses. Is that right?

Something like that. I’ve proposed a model based on the brain function known as mind. And I’ve arranged the model to help understand what a mind needs to do in order to let a person survive. We look at mind first from its most basic functioning: the input of sensory information—like light or touch or having stretched gastric receptors—that, in turn, calls up appetites and arouses the mind. Then appetites and arousal prompt people to act.

And specific things can go awry at that elementary level?

Yes. You can view hallucinations or catatonia, for example, as malfunctions in handling input (perception) or output (motor activity), respectively. Think of delirium as a confused state fueled by abnormal arousal.

You call the next level the integrative mind...

That’s what goes on inside the mind’s



black box. It’s more mysterious biologically. It involves associations within the mind that attach *meaning* to our perceptions. It underlies things like memory, habits, motives.

Disorders exist at that level too? Can you say a person has “integrative problems?”

I describe them to patients all the time: *You’ve been depressed quite a while, I’ll say, and in that state, your mind has become trained (gives meaning) to see only the negative, to expect things not to work out in a rewarding way. Then, you no longer get stimulated, say, by pistachio ice cream, a cue that in the past would have been arousing. The effect is that your mind stops trying, extinguishing what you’d otherwise feel as desire.*

Then there’s the synthetic mind, which builds on earlier constructs?

The synthetic is more exclusively a human area. It’s the ability to construct a world for ourselves in the mind, given only limited data. We use our biases, our temperament, for example, to tilt us

one way or another. Our beliefs become a proxy for having knowledge that we can’t get firsthand. And beliefs let us form relationships with other people that help us survive.

As in the other minds, flaws tie to specific illness. When, for example, there’s a disconnect between our internal state of arousal and our actual perceptions, that can warp our beliefs and our “world” becomes delusional.

How can the model help patients?

It promotes a useful discussion about their illness and what you plan to do about it. Without a theory, you can only say, *Well, you have a chemical imbalance and we haven’t yet found which chemicals or how to repair it.*

Patients must master their own behavior, take responsibility for it if they’re to get anywhere. So you have to explain what motivates behavior, why they behave the way they do. Sometimes you watch the scales fall from their eyes. I see a lot of patients with treatment-resistant mood disorders. Their doctors try every drug; they haven’t gotten better. When they come to me, it’s usually not that their “biochemical” depression hasn’t been addressed—they might no longer have the major depression syndrome. But they’ve learned to become helpless. They stop functioning. Then it takes extra effort to get them back to a good place.

Your model justifies integrating biochemical with other therapy.

Yes. If you only see your doctor once a month for 15 minutes to talk about symptoms and medication side effects, when can you learn what else you need to get better?

SUPPORTING THE CAUSE

Typical OCD, atypical family

“I can open doors with my feet.”

Writing that helped open a different door for high school senior, Cecelia Scheeler: It was part of a college essay that’s just gotten her into Oberlin. Such an admission, though, only comes from a deep place of self-respect. And it’s one not typical for someone who’s lived with signs of ADHD and obsessive compulsive disorder—she fears touching germs—since childhood.

Where’s that confidence come from? In part, it’s from Scheeler’s parents, who are also atypical, both in their approach to their daughter’s illness and their willingness to help others with similar troubles.

When Cecelia was four, says mother Mary Ellen

Pease, “she changed almost overnight” from a happy child to one so fearful that she washed her hands raw. Pease rapidly sought psychiatric help for her daughter: There was no denial, no hesitating.

And with father Charlie Scheeler, a Hopkins trustee, the family was as quick to support psychiatric research, first financially and then with their very blood. They and their many Baltimore relatives have participated in genetic and other studies. “What Hopkins is doing,” says Pease, “is that important to us.” ■

To read Cecelia’s complete essay, go here: www.hopkinsmedicine.org/college_essay.html



Cecelia Scheeler

You and me against the (drug) world

A community contact can turn users around.

Most places, you just get your ‘juice’ (methadone) and go, and it’s see you later,” says Frank Harmon,* a wiry, intense man who’s been no stranger to a mix of heroin and cocaine.

Harmon, who spoke recently at Psychiatry’s Grand Rounds, enrolled this year in Hopkins’ outpatient addiction treatment program, which uses what’s called a Motivated Stepped Care (MSC) approach for patients on methadone therapy.

“It isn’t like others,” Harmon told the faculty and students.

MSC relies heavily on required counseling at various intensities—the different “steps”—as one way to urge patients to keep coming to sessions and stop using opiates and other drugs. Studies show that most patients in the proven program lower drug use and attend psychotherapy. They seek out employment more.

But what Harmon sees as MSC’s saving grace sat beside him at the Rounds.

Louis Beaudet,* his more laid-back shadow, is Harmon’s community support person—a monitor who also, it seems, has become a friend. Harmon recruited him, and Beaudet soon became committed to the program within the stepped care program.

The need for community support is clear, says psychologist **Michael Kidorf**. He can’t count how often he’s heard: *I just hang out with the wrong people*. “Time and again we’d have good meetings with substance users; we’d make headway,” says Kidorf, “but then we couldn’t help picturing their returning home to a vast network of people and situations connected with drug use.” Kidorf’s research confirms that drug users’ social support systems are flimsy. Most of their contacts are other users. And their functioning within society as a whole is poor: lots of divorce and broken relationships.

“But we know healthy social connections help patients stay in treatment and lower the risk of relapse to heroin or other drugs,” says Kidorf. So a decade or so ago, his group stepped in: They required the 10 percent of patients with the most trouble staying drug-free—those stalled at Step 4, MSC’s highest-counseling stage—to recruit a community support person. The



“This program is about putting patients in a position to succeed,” says Michael Kidorf, associate director of Hopkins’ Addiction Treatment Services.

chosen partner had to be drug-free and willing to act both as a monitor and as a bridge between the patient and the “clean” community. Beaudet, for example, went from once being Harmon’s coworker on a factory line to someone who took him bowling, fishing, grocery shopping and to church as well as to the weekly required check-in that CSPs and patients attend.

“Patients initially grumble about the program” Kidorf says. But a study confirmed its value: partnered patients attended some 70 percent of scheduled group sessions; 78 percent ultimately “graduated” from Step 4 after a full month of drug-clear urine samples.

Attitude is important, says Kidorf. “We know what we’re doing is an intrusive move so we keep it positive. We focus on each patient’s strengths and what’s accomplished, and that keeps it therapeutic.”

Harmon—improved after four months with Beaudet—calls him “a tough older brother.” When Harmon slipped from a long—for him—abstinence, Beaudet quickly knew. “He gave me a rough time,” Harmon said. “He wrote out the definition of the word *useless* and told me to keep it in my pocket when I was tempted. I really felt bad. But he’s still with me...and I want more than ever to quit. I don’t know what I’d do without him. I’d be awful upset.” ■

For information: 410-550-0006.

* for privacy, we’ve changed names and some details.

Channeling karma

Several years ago, psychiatrist **Vani Rao** began slipping patients into her early morning schedule before the community psychiatry clinic opened. The patients were handpicked, Rao says, because she saw a need, and the early hours were because she wasn’t sure if they’d feel comfortable at the regular clinic. Her effort blossomed. Word of mouth kept people coming. Now the South Asian Wellness Clinic is a well-established destination. Twice a month, she and colleagues see patients from South Asia and from China and more northern areas. They come with a variety of mental health concerns.



“I had to do something for my community,” says India-born Rao, who heads the local chapter of the Indo-American Psychiatric Association.

Culture shock, difficulties of integration, challenges to traditional family roles, discrimination and social isolation can, of course, aggravate psychiatric illness. Rao, however, counters that with the edge that ethnicity gives in creating a therapeutic rapport. “One reason to have someone you’re culturally comfortable with has to do with stigma,” Rao explains. For South Asians, the embarrassment of having a mental illness is perhaps 10 times greater than for U.S. natives.

“That’s not the only reason they tend not to seek psychiatric help, however.” In the Indian subcontinent, for example, psychic pain, sadness and stress are more accepted as a part of life. “It’s part of karma for something done in your past, knowingly or not, or that might happen in the future,” she says. “Suffering carries a positive slant: You experience it now so that you’ll see better days.”

So Rao considers that in urging patients to accept help. “I try to put mental illness in the proper light. I tell patients that when it interferes with their family and work life, when it’s incapacitating, then suffering goes against the grain of faith.

“But therapy pulls social, cultural and spiritual issues into balance along with the mental.” ■

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