

Behavior

The 'rational suicide' dilemma

A homosexual man with AIDS is admitted to a hospital because of his rapidly deteriorating physical condition. Four weeks later, he is found comatose in his bed with an empty vial of an unprescribed medicine on his night table. His physicians do not attempt to resuscitate him and he dies within the hour.

Another man, a widower in his 80s, is found unconscious by his children following a suspected drug overdose. In a suicide note, he says he has led a full life and wants to avoid the infirmities of old age. He previously drafted a "living will" asking not to be kept alive by "heroic measures" should he become seriously ill. But at a nearby emergency room, physicians disregard his wishes and save his life.

These cases, described in the November *GENERAL HOSPITAL PSYCHIATRY*, illustrate a wrenching ethical conflict physicians increasingly face. On one hand, a person making a serious suicide attempt is considered mentally ill and in need of psychiatric help. Yet courts and physicians now routinely grant people the right to refuse medical treatment if those patients feel the benefits do not justify the pain or emotional turmoil associated with such interventions. Which principle is followed by physicians when patients who have attempted suicide refuse medical treatment because they want to die?

It remains unclear whether withholding medical treatment following a suicide attempt amounts to aiding suicide and to what extent such a decision can be justified by the presence of a terminal illness, say psychiatrist Harry Karlinsky and his colleagues at Toronto General Hospital. But suicide attempts by hospitalized patients with "do not resuscitate" orders on their medical charts should be met by active resuscitation efforts unless recovery is unlikely, they suggest. If resuscitation is successful, patients deemed mentally competent could then reject further lifesaving treatment. This approach is supported by evidence that only a small number of individuals who survive a suicide attempt later commit suicide.

In an accompanying comment, psychiatrist Paul S. Appelbaum of the University of Massachusetts Medical School in Worcester says some suicide decisions may be rational and psychiatrists will probably need to develop guidelines for assessing "competence to commit suicide."

Shy dispositions, tough transitions

Extremely shy children do not have a heightened risk for developing mental disorders later in life, but enduring shyness appears to undermine the stability of a young man's work and family life, according to a study in the November *DEVELOPMENTAL PSYCHOLOGY*. Men with childhood histories of shyness are older than their male peers when they marry, have children and enter stable careers, report psychologist Avshalom Caspi of Harvard University and his co-workers. They also achieve less status in their jobs and switch jobs more often. Shy men who establish stable careers late—in their mid to late 30s—are more likely to get divorced or separated.

In contrast, the researchers note, women characterized by shyness and reserve as children appear to move through early adulthood with little difficulty. They are more likely than other women to marry, have children and become homemakers.

The Harvard team obtained data for the study from a project begun in 1928 with 214 newborn infants. Shyness was estimated from childhood interviews with mothers and teachers. Most subjects were then interviewed at ages 30 and 40.

With women now routinely entering the work force, shy females may no longer move so easily through young adulthood. But a style of interaction such as shyness—or what the researchers call "moving away from the world"—exerts its strongest effects at times of transition to new roles and relationships, they conclude.

Neuroscience

Rick Weiss reports from Toronto at the 18th annual meeting of the Society for Neuroscience

Wondering why we're pawns to yawns

Everyone knows that yawns are contagious. But nobody knows what part of a yawn *makes* it contagious. Robert R. Provine of the University of Maryland, Baltimore County, in Catonsville sought to find out.

On 120 people, Provine tested the yawn-evoking potential of a 5-minute videotape made of 30 repetitions of a 10-second yawn. In some versions, though, he used an image-fading technology to "erase" various parts of the yawning face. In some cases the eyes were missing, in others the mouth was gone; in one version everything was missing except the eyebrows; in another the mouth alone was visible.

"I expected the mouth alone to be almost as effective as the whole face," Provine says. "But surprisingly, the mouth seems to be not an important component." In fact, he says, "What's been becoming clear is that virtually anything having to do with a yawn can trigger yawning."

Provine says his research "is an unlikely approach to some deep questions about how we recognize complex patterns," adding that it may ultimately be useful for designing neural models of pattern recognition.

Timely transplants of biological clocks

Scientists have identified biochemical and behavioral rhythms in some members of virtually every major taxonomic group, from fungi to humans. In mammals, these circadian rhythms are in large part controlled by a portion of the brain called the suprachiasmatic nucleus (SCN)—as demonstrated, for example, by a hamster's loss of circadian activity cycles on an exercise wheel following removal of its SCN. Researchers have performed SCN transplants into the brains of animals whose own SCNs have been removed, thus restoring natural rhythmicity. But scientists have still wondered whether the SCN is the ultimate "pacemaker," or whether it is simply a critical part of the rhythm-regulating system while the actual choice of cycle length is determined somewhere else.

Martin R. Ralph and his colleagues at the University of Virginia in Charlottesville appear to settle the question with a series of SCN transplants among hamsters with genetically determined differences in circadian rhythms. They transplanted SCNs between wild-type hamsters with activity cycles of about 24 hours, mutant hamsters with 20-hour "clocks," and cross-breeds with 22-hour cycles (*SN*: 9/3/88, p.148). "The period of the restored rhythm always matches that of the donor regardless of the direction of the transplant," they report.

While their research greatly strengthens the view that the SCN is at the top of the rhythm-determining system in mammals, researchers have yet to explain why certain rhythms—such as core body temperature cycles in rats—are not ablated even after SCN removal. Equally confounding is scientists' ability to restore circadian rhythms in SCN-lesioned animals by simply injecting them with a chemical stimulant.

Making the best of a bad toxin

Few compounds bind to nerve endings as well as tetanus toxin. Put the poisonous protein almost anywhere in the body and it will find a peripheral nerve ending, then travel inside nerve cells to the central nervous system, where it eventually can lead to death. Paul S. Fishman and his colleagues at the University of Maryland School of Medicine in Baltimore took a nontoxic fragment of the tetanus toxin, bound it to an immune-system protein, and traced the hybrid compound as it moved from peripheral nerve endings into the central nervous system and brain. Fishman and others say the technique may be an excellent way of getting immune proteins into the spinal cord and brain—usually isolated from disease-fighting antibodies by the "blood-brain barrier."