


PATRICK MALONE & ASSOCIATES, P.C.  
From Tragedy To Justice - Attorneys For The Injured



We win exceptional verdicts and settlements for our clients in cases of brain injury, medical malpractice, wrongful death and other severe injuries.

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## *Deep Thoughts for the New Year: Ethical Quandaries of Medical Advances*

Dear Patrick,

The turning of the calendar spurs us to reflection. We all want the best that modern medicine has to offer, but progress always comes at a cost. Thus this month's topic: the ethical quandaries of medical advances.

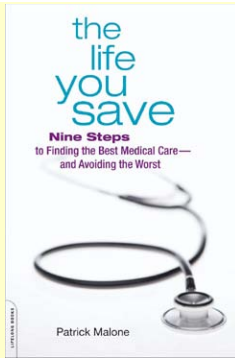
At the University of Notre Dame, staffers at the John J. Reilly Center for Science, Technology and Values grapple with the idea that knowledge isn't always wisdom, so how should society accommodate both?

The Center explores the ethical and policy issues that arise when science and technology intersect. Its goal is to promote the advancement of science and technology for the common good. The Center recently announced its inaugural list of emerging ethical dilemmas in science and technology for 2013. Of the 11 issues on its list, six are directly related to medicine and patient care.

For the complete list, [link here](#), where you can also vote for your top concerns about science and ethics, and learn about things that concern other folks.

## *Six Troubling Issues in Medical Technical Advances*

**Personalized Genetic Tests/Personalized Medicine**  
Within the last 10 years, the creation of fast, low-cost genetic sequencing has given anybody with a hundred bucks to spend direct access to genome sequencing and analysis. What you don't get for that price, however, is guidance from physicians or genetic counselors on how to process the information. The test results aren't so much "genetic horoscopes," as one skeptic on [HealthNewsReview.org](#) recently wrote, as much as they are invitations for confusion, worry



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and overspending on overtesting. (See my recent newsletter, "Learning Your Own DNA Sequence: The Promise and Peril of [Genetic Testing](#).)

And, as the Center asks: What are the potential privacy issues, and how do we protect this very personal and private information? Are we headed toward a new era of therapeutic intervention to increase quality of life, or a new era of eugenics?

### Hacking Into Medical Devices

Implanted medical devices, such as pacemakers, are susceptible to hackers. [We wrote about this disturbing possibility last year](#) with regard to a programmable insulin pump that could be hacked and reprogrammed to overdose patients with insulin. As the Reilly Center notes, one technician at security vendor IOActive recently demonstrated the vulnerability of a pacemaker by breaching the security of the wireless device from his laptop and reprogramming it to deliver an 830-volt shock. So, the Center asks: How do we make sure these devices are secure?

### Low-Quality and Counterfeit Pharmaceuticals

Until recently, detecting low-quality and counterfeit pharmaceuticals required access to complex testing equipment, often unavailable in developing countries where these problems are common.

Pharmaceutical manufacture is a huge industry with many cooks in its soup. A couple of years ago we blogged about pharmacists around the world being concerned about [counterfeit drugs](#). The Center asks: How do you raise the technical bar, how do you improve manufacturing practices and analytical capabilities? How do you address global ethical and legal puzzles, such as India's approval of the manufacture of life-saving drugs that violates U.S. patent law?

### Human-Animal Hybrids

So far scientists have kept human-animal hybrids on the cellular level; that is, no one has created a monkey-kid. But even modest experiments involving animal embryos and human stem cells go too far for some people, who say they violate human dignity and blur the line between species. The Center asks: Is interspecies research the next frontier in understanding humanity and curing disease? Or is it a slippery slope, rife with ethical dilemmas, toward creating new species?

### Data Collection and Privacy

Every time your doctor transfers your electronic file to another health care provider he or she leaves digital tracks. Every time you download an app to your phone or make a digital purchase, you do too. This digital information is valuable in establishing a profile of a person and his or her behavior. That behavior is valuable to

companies keen to sell you stuff or otherwise package your information for a wider social use. It's called "data mining."

If something is worth mining, it's valuable. Your medical identity, for example, can be stolen at great cost to you. (See our blog about [medical identity theft](#).) Now that microprocessors and permanent memory are inexpensive technology, the Center asks: What kinds of information should be collected and retained? Should we create a diabetic insulin implant that could notify your doctor or insurance company when you make poor diet choices, and should that decision make you ineligible for certain types of medical treatment? Should cars be equipped to monitor speed and other measures of good driving, and should this data be subpoenaed by authorities following a crash? How do we bridge the gap between data collection and meaningful outcomes?

#### Human Enhancements

"[A]ny modification aimed at improving individual human performance and brought about by science-based or technology-based interventions in the human body" is how the European Technology Assessment Group defines "human enhancement."

The concept embraces a wide range of existing and emerging technologies to improve functions as diverse as sight, brain power, reproductive ability, mood control, sports performance... As noted by the [Wellcome Collection](#), a website devoted to curious people indulging their interests, human enhancement in the medical realm includes eyeglasses, false teeth and birth-control pills -- things we take for granted.

Current science points to a future where cognitive enhancers and medical nanorobots will be widespread as we seek to augment our beauty, intelligence and health. But pharmaceutical, surgical, mechanical and neurological enhancements can blur the boundaries between therapy and manipulation. They can contribute to illegal and immoral behavior--do we really want to encourage the development of "superhumans," such as the innumerable racing cyclists who gain a competitive edge by blood doping, but also can lose their status, credibility and livelihoods?

In less elite applications -- say, to you and me -- human enhancement can feed the philosophy that doing more is always better when, in fact, it often leads to unwelcome medical outcomes and "disease mongering."

We need to know not only the benefit of enhancement, but the potential harm. The Center asks: Where do we draw the line between therapy and enhancement? How do we justify enhancing human bodies when so many individuals still lack access to basic therapeutic medicine?

### *For More Information*

An expanded discussion of each of these issues, and many others, can be found at the [Reilly Center website](#).

## Recent Health Care Blog Posts

Here are some recent posts on our patient safety blog that might interest you.

- What do you know about how much radiation you're getting with a CT scan? How do you calculate your risk of disease from excessive doses of medical radiation? [Our blog post gives you the scoop](#) and provides links to more information on cutting your risk from radiation.
- Why [hospital shift changes are bad for patients' health](#), and what alert family members can do about it.
- The government has a plan to make it easier for [medical consumers to turn in reports about errors and dangerous practices](#) they observe in hospitals and clinics.
- Scientific proof that [eating large quantities of chocolate will win you the Nobel Prize](#). Well, maybe not, but it's a fun read -- and timely as we recover from the holiday binge of sweets. And our blog teaches a serious point about reading statistical studies.

### Past issues of this newsletter:

Here is a quick [index of past issues of our Better Health Care newsletter](#), most recent first.

To your continued health!

Sincerely,

A handwritten signature in black ink that reads "Patrick Malone". The signature is fluid and cursive, with the first name "Patrick" being larger and more prominent than the last name "Malone".

Patrick Malone  
Patrick Malone & Associates