

Stem cell revolution trudges forward

[Editor's note: The following is excerpts from an interview with Shinya Yamanaka, who won the 2012 Nobel Prize in Physiology or Medicine, for reprogramming mature cells into what are now called induced pluripotent stem cells.]

We are still in the early stages [of stem cell treatment]. In 2014, Dr. Masayo Takahashi and her colleagues at the Riken Center for Developmental Biology had great success using iPS cells to treat [macular degeneration](#).

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In some ways, yes, [the promise of stem cells] is overstated. For example, target diseases for cell therapy are limited. There are about 10: Parkinson's, retinal and corneal diseases, heart and liver failure, [diabetes](#) and only a few more — [spinal cord injury](#), joint disorders and some blood disorders...The number of human diseases is enormous....

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I think the science has moved too far ahead of talk of ethical issues. When we succeeded in making iPS cells, we thought, wow, we can now overcome ethical issues of using embryos to make stem cell lines.

But soon after, we realized we are making new ethical issues. We can make a human kidney or human pancreas in pigs if human iPS cells are injected into the embryo. But how much can we do those things?

It is very controversial. These treatments may help thousands of people. So getting an ethical consensus is extremely important.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [The Stem-Cell Revolution Is Coming — Slowly](#)