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Growing Human Organs in Animals

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Scientists in **Japan** have received the **permission** of the government to **try growing human organs in animals**.

- The research led by Hiromitsu Nakauchi, a professor of genetics at Stanford University, is the **first of its kind**.
- The research involves **generating animal embryos** — mice, rats or pigs — that lack a particular organ such as a pancreas.
 - The modified embryos are then implanted with human **“induced Pluripotent Stem (iPS)”** cells that can grow into the missing pancreas.
 - The embryos would be transplanted into wombs where they could theoretically be carried to term with a functioning human pancreas.
- **Concerns:**
 - Implanting animal embryos with human cells creates what is known as a **chimera**- an entity with both animal and human cells.
 - The process throws up complex **ethical issues**, particularly over concerns that it may not be possible to completely control which organs are formed in the animal by the human iPS cells.
- **Benefit:** This experiment may lead to a future where human organs for transplant could be grown inside animals.

Source: TH