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SNV /STU faculty

Biology department

M1 immunology

Bioethics

Tutorial 4 (case study)

### 1. Genetic Editing in Embryos

Scenario: A couple wants to use CRISPR technology to edit their future child's genome to eliminate a hereditary disease. Explore the ethical implications of genetic editing, including potential long-term effects on the human gene pool and the moral considerations of "designer babies."

### 2. End-of-Life Decisions

Scenario: A patient with a terminal illness requests physician-assisted suicide. Discuss the ethical considerations of end-of-life decisions, patient autonomy, and the role of healthcare providers in respecting patient wishes versus preserving life.

### 3. Organ Transplantation Ethics

Scenario: A young patient requires a heart transplant, but the availability of donor organs is limited. Delve into the ethical dilemmas surrounding organ allocation, the use of organs from deceased donors without explicit consent, and the debate over compensating living donors.

### 4. Clinical Trials in Developing Countries

Scenario: A pharmaceutical company conducts clinical trials for a new drug in a developing country. Examine the ethical issues related to informed consent, exploitation, and the distribution of benefits from successful trials to the local population.

### 5. Stem Cell Research

Scenario: Researchers use stem cells from human embryos for potentially groundbreaking treatments. Address the ethical debate over the moral status of embryos, the potential for scientific advancements, and the regulatory landscape.

### 6. Privacy and Confidentiality in Genetic Testing

Scenario: After undergoing genetic testing, a patient learns they have a gene associated with a severe, incurable disease. Discuss the ethical considerations of privacy, the duty to warn at-risk relatives, and the potential impact on employment and insurance.

### 7. Artificial Intelligence in Healthcare

Scenario: An AI system is developed to diagnose patients more accurately than human doctors. Explore the ethical implications of relying on AI for healthcare decisions, including accountability, patient consent, and the potential for bias in AI algorithms.

## 8. Animal Testing in Research

Scenario: A research institute uses animals to test the efficacy of a new cancer treatment. Consider the ethical arguments for and against animal testing, including animal welfare, the necessity for scientific advancement, and alternative research methods.

## 9. Vaccination Mandates

Scenario: A government implements mandatory vaccination policies for certain contagious diseases. Analyze the ethical balance between individual freedoms and public health, including the implications for herd immunity and the rights of those who cannot be vaccinated for medical reasons.

## 10. Access to Experimental Treatments

Scenario: A patient with no other treatment options seeks access to an experimental drug not yet approved by regulatory bodies. Discuss the ethical considerations of compassionate use programs, the risks and benefits of unproven treatments, and the role of regulatory agencies in protecting patients.