

INDIVIDUAL CASE STUDY (CASE CODE: 19)

Biotech and Health Admin Committee

PARTICIPANT GUIDELINES

- The event will be presented to you through your reading of CURIS Skills, CURIS Knowledge and Case Details
- Each case study must be completed individually and should take approximately 1 hour
- You should take approximately 10 minutes to review this information and 20 mins to conduct external research to help prepare your response
- You should then take approximately 20 minutes to write your response and allot 10 minutes to edit your response and submit your work
- Please also include a citations page to indicate which external sources were used
- All submissions will be made through the CurisConnect website: <https://curisconnect.vercel.app/>
- You will be evaluated on how well you demonstrate the CURIS Skills and meet the CURIS Knowledge criteria. The last page in your case study package consists of an Evaluation Form whereby the evaluator will allot points for the completion of the case study.
- The points allotted will be based on the depth and detail of your explanation in your response since there are no defined right or wrong answers, but rather we want to see your thinking, research, knowledge and understanding on the situation at hand.
- The amount of points earned will correspond to the amount of volunteer minutes or hours you will earn. The threshold and range for this grading scheme can also be found at the bottom of the Evaluation Form.

CURIS SKILLS

- Critical Thinking – Reason effectively and use systems thinking.
- Communication – Communicate clearly.
- Creativity and Innovation – Show evidence of creativity.
- Healthcare Oriented Mindset - Utilizes proper terminology and demonstrates foundational educational understanding in discipline.

CURIS KNOWLEDGE

- Explain the principles of athletic rehabilitation management.
- Describe the pros and cons of different rehabilitation strategies.
- Identify factors affecting treatment decision-making.

CASE DETAILS

You are a **Molecular Biologist** working for the University of Toronto as a researcher. You and your team are contracted by the government of Kenya to develop a new kind of genetically modified mosquitoes. The Kenyan people have suffered long from mosquito-borne diseases like Yellow Fever and Malaria. Your laboratory holds over a thousand genetically modified mosquitoes that have two special genes. One gene is a self-limiting gene that prevents offspring from maturing to adulthood, and a fluorescent marker gene that allows researchers to identify genetically modified mosquitoes in the wild.

The idea for these mosquitoes is to release them to the wild, when they mate with wild mosquitos, their modified genes will pass on and the self-limiting gene would kill future offspring, reducing mosquito populations in the wild. Your technology could save millions of lives in Kenya and could greatly benefit the world as a result. Before you can continue on with your plans, one of your colleagues raises a staggering concern, your team has not considered the ETHICS of releasing these mosquitoes in the wild. There is no sign that prevents these genes from reducing mosquitoes to the point of extinction, which can have devastating results in the world. Despite mosquitoes carrying diseases, they are also a pollinator, which a countless number of plants need. It is also impossible to make these mosquitoes stay in Kenya, they could travel to other neighboring countries and reduce their populations without their consent. Nature is often unpredictable, so should humanity be meddling in its affairs?

All of these concerns are delaying this project from moving forward. After much heated discussion, you are given the final decision on the fate of this project. Is reducing mosquito populations to a potential point of extinction worth it for saving human lives?

Your Task: Considering all these factors, you must write a one-page essay that details your solution and why it should happen. Detail all the factors that could be at play and answer them to fit it .

Please also address the following questions in your response:

- Would you modify the strategy if you are speaking in favor of it? If so, how?
- Reference Kenya to your response.

EVALUATION FORM

PARTICIPANT: _____

EVALUATOR: _____

Did the participant:		Below expectations	Meets expectations	Exceeds expectations	Judged score
CURIS KNOWLEDGE					
1	Explain the principles of molecular biology	2	4	6	
2	Describe the pros and cons of different ethical strategies.	2	4	6	
3	Identify factors affecting treatment decision-making.	2	4	6	
CURIS SKILLS					
4	Critical Thinking & Problem-Solving	1	2	3	
5	Communication, Terminology & Professionalism	1	2	3	
6	Creativity & Innovation	1	2	3	
7	Healthcare Oriented Mindset	1	2	3	
TOTAL SCORE					