

Cornell Guided Notes

Genetics of Disease (Medical Interventions) | 2027-02-16

Name

Period

Date

Lesson

Lesson focus

Bioethics debate: false results

Key words and questions

Prepared details and student notes

Essential question
What is today's target?

Debate the ethics of using a diagnostic test that sometimes gives false positives or false negatives. Big idea: Is it ethical to use a medical test that sometimes gives the wrong answer, and what conditions change that answer?

My notes, examples, and questions

Key words
What vocabulary unlocks the lesson?

- positive control
- negative control
- specificity
- sensitivity
- primary antibody
- secondary antibody

My notes, examples, and questions

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Cornell Notes - Continued

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Must-know ideas
What should I understand by the end?

- A false positive tells a healthy person they are sick; a false negative tells a sick person they are healthy; the harms of each differ by context.
- Sensitivity and specificity are the technical measures of a test's accuracy: they can be traded off against each other by adjusting the threshold.
- Ethical use of an imperfect test depends on the consequences of each type of error in the specific clinical context.

My notes, examples, and questions

Process notes
What happens during class?

- 0-10 min: Read scenario; define false positive and false negative in notebook with a clinical example each
- 10-25 min: Draft CER: claim (ethical or not, under what conditions), reason, evidence from the scenario
- 25-40 min: Partner exchange: find someone with a different view; record their strongest point
- 40-55 min: Write rebuttal; revise claim if the counterpoint exposed a gap in reasoning
- 55-68 min: Post CER to the discussion board
- 68-80 min: Read two classmates' CERs; leave a one-sentence response to each

My notes, examples, and questions

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Steps and evidence What do I do and turn in?

- Read the scenario: a test is fast and cheap but occasionally wrong in both directions.
- Write your Claim: is it ethical to use this test, and under what conditions?
- Add a Reason that weighs the harm of a false positive against a false negative.
- Find a partner with a different view and note their strongest point.
- Write a Rebuttal that addresses it.
- Post your CER and read how two classmates handled the false-result tradeoff.

Evidence: CER - Written CER on the ethics of using an imperfect test: claim with conditions, evidence about false-result harms, reasoning, and rebuttal.

My notes, examples, and questions

Checks for understanding How do I know I got it?

- You will be able to argue when an imperfect test is ethical to use.
- You will be able to compare the harms of false positives and false negatives.
- You will be able to rebut an opposing view.

My notes, examples, and questions

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Cornell Notes - Continued

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Lab or safety notes
What must I handle carefully?

Supplies:

- Pre-coated ELISA microplate
- Primary antibody solution
- Secondary antibody solution
- Substrate solution
- Wash buffer and squirt bottle
- Micropipettes and tips
- Positive and negative control samples

My notes, examples, and questions

Summary

Today's lesson focused on Bioethics debate: false results. The main target was: Debate the ethics of using a diagnostic test that sometimes gives false positives or false negatives. The evidence of learning is CER: Written CER on the ethics of using an imperfect test: claim with conditions, evidence about false-result harms, reasoning, and rebuttal.. In my own words, the most important idea from today is:

My summary

My final question or connection