Teacher Answer Key

Case Study

1. AI can detect subtle, statistical patterns in continuous data streams — tiny shifts in running mechanics over multiple sessions — that are below the threshold of human perception or subjective feeling. However, the system generates a probability estimate, not a certainty. Devonte has no symptoms, and the algorithm could be producing a false positive. The limit is that the recommendation is probabilistic, not diagnostic, and context (the scouts, his career stage) is not something the algorithm understands.

2. Ideally, the AI recommendation should inform but not override human judgment. The trainer's role is to synthesize the algorithmic signal with contextual knowledge about Devonte's career stakes, his injury history, and their shared read of his body. A responsible approach would treat the flag as a strong reason to have a deeper conversation and perhaps a medical evaluation, not as an automatic mandate to sit out. The reading's broader point is that AI works best as a decision-support tool, not a decision-maker.

Multiple Choice

1. B

2. B

3. C

Matching

1-C, 2-E, 3-D, 4-B, 5-A

Fill-in-the-Blank

1) 2017, 2) biomechanical, 3) Hudl

Short Answer (Sample Responses)

Q1: Traditional sports medicine relied on subjective assessments — how an athlete feels, what trainers observe. AI changes this by processing continuous objective data: GPS trackers measure acceleration loads, force plates measure landing mechanics, and wearables track sleep and recovery metrics. Machine learning models then find patterns in that data that precede injuries — patterns too subtle and multi-variable for human observation to catch.

Q2: Paralysis by analysis means having so many metrics available that decision-making becomes slower, more complicated, or less confident rather than more

informed. It's a legitimate concern — the reading notes veteran coaches raising it specifically. However, the solution is usually better integration of AI as a support tool rather than abandoning data entirely. The challenge is training coaches and analysts to distinguish signal from noise.

Q3: This is genuinely complex. Athletes have a strong privacy interest in their health data — knowing that every sleep metric and heart rate variability reading is tracked and potentially shared with team management creates a new form of continuous bodily surveillance. Teams might argue the data is necessary to protect the player's health and their investment. Questions of who owns the data, how it's used in contract negotiations, and what happens to it after a player leaves the team are all unsettled and important.