

Simple Muscle Curve

Experiment 13 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To identify twitch phases and calculate their durations

Principle

A single twitch has latent, contraction and relaxation phases. The trace shows mechanical response after stimulation.

Requirements

- Instructor-provided labelled diagrams, traces or data for this activity.
- Calculator, graph paper or spreadsheet, and the activity record.

Procedure

1. Review the record

Use the instructor-provided gastrocnemius-sciatic teaching trace or a simulated recording. Record the axes, gain and input markers.

2. Measure

Mark stimulus, response onset, peak and return to baseline. Compare their time coordinates.

3. Conclude

Explain the curve using the stated conditions and identify one limitation of the comparison.

Human Anatomy and Physiology

Observations and Record

Record item	Entry
Activity / material identifier	_____
Measurement or visible feature	_____
Comparison / calculated outcome	_____
Interpretation and limitation	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Phase duration = end time – start time. If onset is 10 ms and peak is 40 ms, contraction time is 30 ms.

Result

The recorded finding is ____; the supporting observation or calculation is _____. The main limitation is _____.

Precautions

- Use the supplied teaching material; distinguish a measured observation from an assumed value.
- Keep units, axes, labels and measurement conditions consistent.
- Record limitations and seek instructor review before applying a conclusion to a live case.

Viva Questions and Answers

1. What is the main endpoint?

Identify twitch phases and calculate their durations

2. Does one observed result prove a general conclusion?

No. Controls, repeatability and the limitations of the method must be considered.

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