PHYSIOLOGY LABS PRACTICAL TASKS

TASKS, PRINCIPLES, QUESTIONS

Reflexes LAB

overview of tasks:

1. Reflexes (majority of the lab)
2. Laterality
3. Reactoin Time
4. Reflex time

REFLEXES

Questions:

1. Intro - clinical testing
    a. Why do we clinically test reflexes?
        (find 3 dirrerent reasons minimum)
    b. introduce few reflexes evaluation that you already know!

2. Physiology
    a. what is a reflex?
    b. what are reflexes good for?
    c. reflex arch - what?, why?
    d. classification of reflexes
        somatic/autonomic
        mono- / bi- / ologo- / poly-synaptic
        exteroceptive/proprioceptive/interoceptive

3. Evaluation:
    3.1. Overview of rfxs

Region	***Reflex/test***	***Centre/path***		***type***
HEAD				
	olfaction	n. I		sensory
	vision	n. II (see lab Vision)		sensory
	pupillary rfx			autonomic
	corneal rfx	n. V + VII		extero
	masseter rfx	n. V		proprio
	sensitivity	n VII		
	occulo-cardiac rfx	n. X		autonomic

CERV.				
	bicipital	C6		proprio
	flexor fingers	C7		proprio
	tricipital	C8		proprio
TH				
	abdominal cutaneous	Th 7-8		extero
	abdominal cutaneous	Th 9-10		extero
	abdominal cutaneous	Th 11-12		extero
L,S				
	knee-jerk	L2-4		proprio
	achill. tendon rfx.	L5-S2		proprio

3.2. Tasks:

- check all of the reflexes above, everybody ,bilaterally
- record results
- try to interpret the results

REFLEX TIME

Reflex time is the time delay between specific stimulus onset and reflectory response to this stimulus.

Task: estimate reflex time

Procedure:

- Attach accelerometer (Vernier) to the forefoot
- Ask patient (volunteer) to:
  - Take off shoes if loose (slippers, flip-flops, sandals, etc)
  - knee on the chair or bed while well supporting the body with arms.
- Run the recording on screen
- Within 5s trigger Achilles tendon reflex
- Repeat 5 times and calculate average reflex time (time between stimulation artifact and first peek of foot oscilation).
- Comment on results obtained

Question: What is the most typical medical use of reflex time testing?

LATERALITY (dexterity) test

Laterality test expresses which of the pair organs/body parts are dominant. I.e. which eye, hand or leg is preferably used.

Laterality is genetically determined and can range from 100 left dominant to 100% right dominant

Different laterality of hands, eyes and legs can be found in one individual. (e.g. right-handed, left eye dominant)

Task: Estimate laterality index
Procedure:

- Perform laterality tests available in the lab.
- Record the results for each test and both sides separately
- Calculate laterality index (as percentage of all tests performed in which dominant side overperformed non-dominant one)

Question: What is the most typical use of laterality testing?

REACTION TIME

Reaction time is the time delay between specific stimulus onset and voluntary response to this stimulus.

Task: Estimate reaction time for various stimuli
Procedure:

- Use specific device (provided in the lab) to check voluntary reaction time to various stimuli (light, sound, touch).
- Get average of 10 measurements per each stimulu stype and each subject.
- Record and comment on results obtained