



RULA

**Rapid upper limb analysis
in ergonomic risk factors
in mobile phone users**

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INTRODUCTION

- These mobile devices are finding their way into people's lives as tools for communication, entertainment, social engagement, and even work.
- Phone users tend to adopt static and awkward body postures such as looking downwards and tilting the head, flexing wrists, and rounding shoulders vertically
- Observing such discomfort physically, can also adversely affect one's life by reducing the productivity and quality of living
- This is likely to lead to many ergonomic risk factors



This study intends to employ the RULA method to analyze the ergonomic risk factors of mobile phone users



Rula Developed by McAtamney and Corlett (1993)
Evaluates posture, muscle use, and force exertion

1

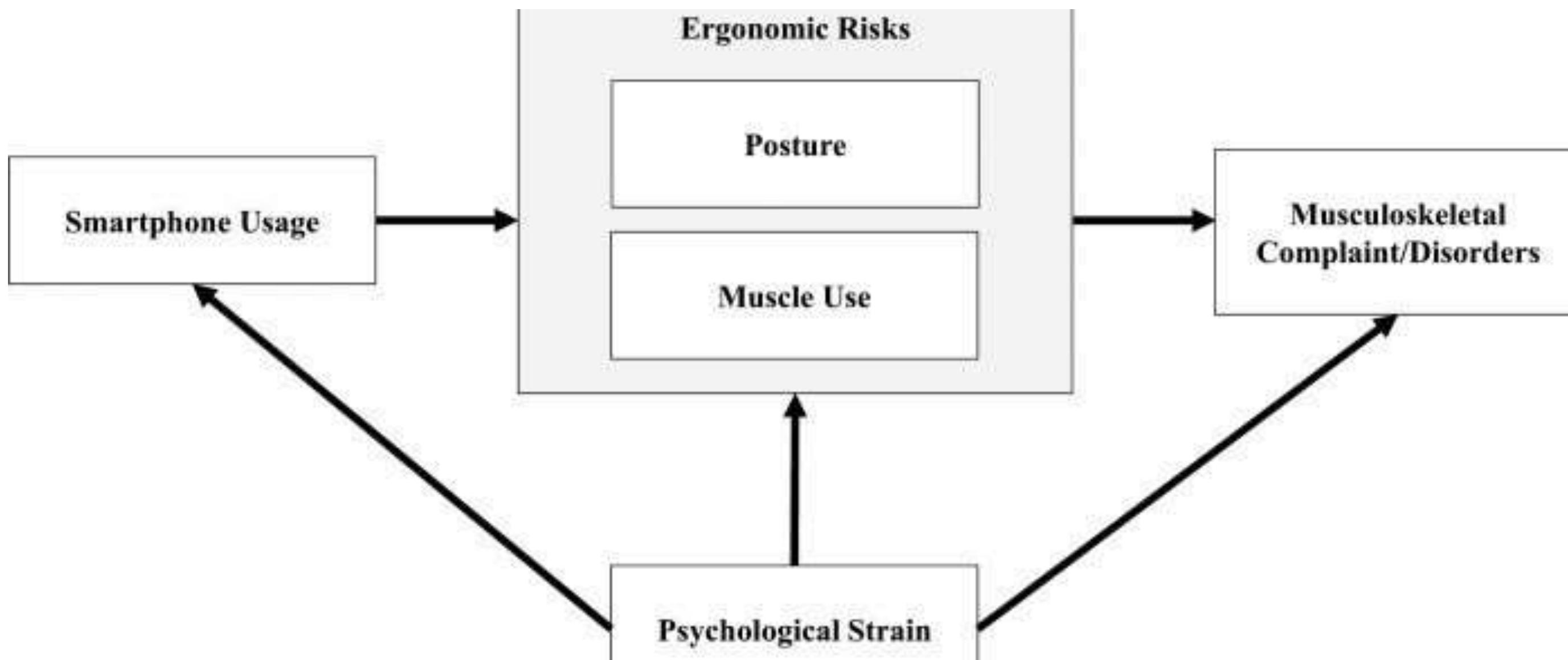
ANALYSIS

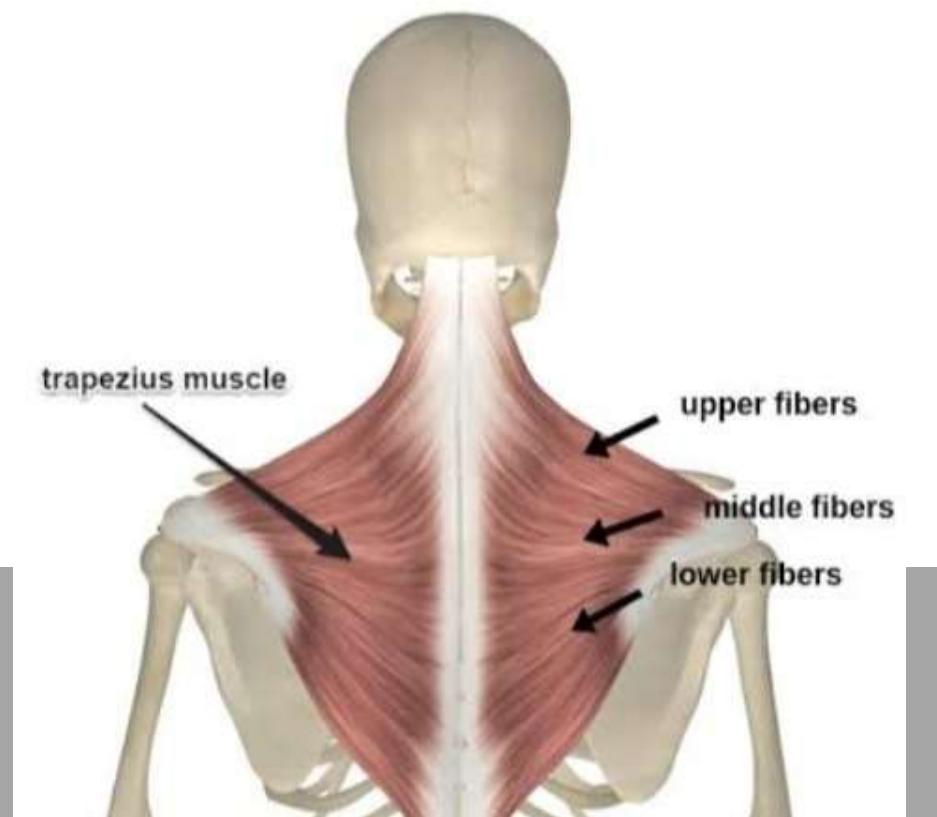
- 1.RULA is a quick ergonomic tool to Analyze Posture, Movement, and Muscle use
- 2.It focuses on Neck ,Shoulder,Elbow,Wrist, and upper back positions during mobile phone use
- 3.While using their phones and RULA Scores were assigned based on their posture

2

RISKS

- 1.Neck pain and stiffness
- 2.Shoulder impingement
- 3.Tennis elbow and wrist tendonitis
- 4.Thumb pain (De Quervain's Tenosynovitis)





Trapeziue



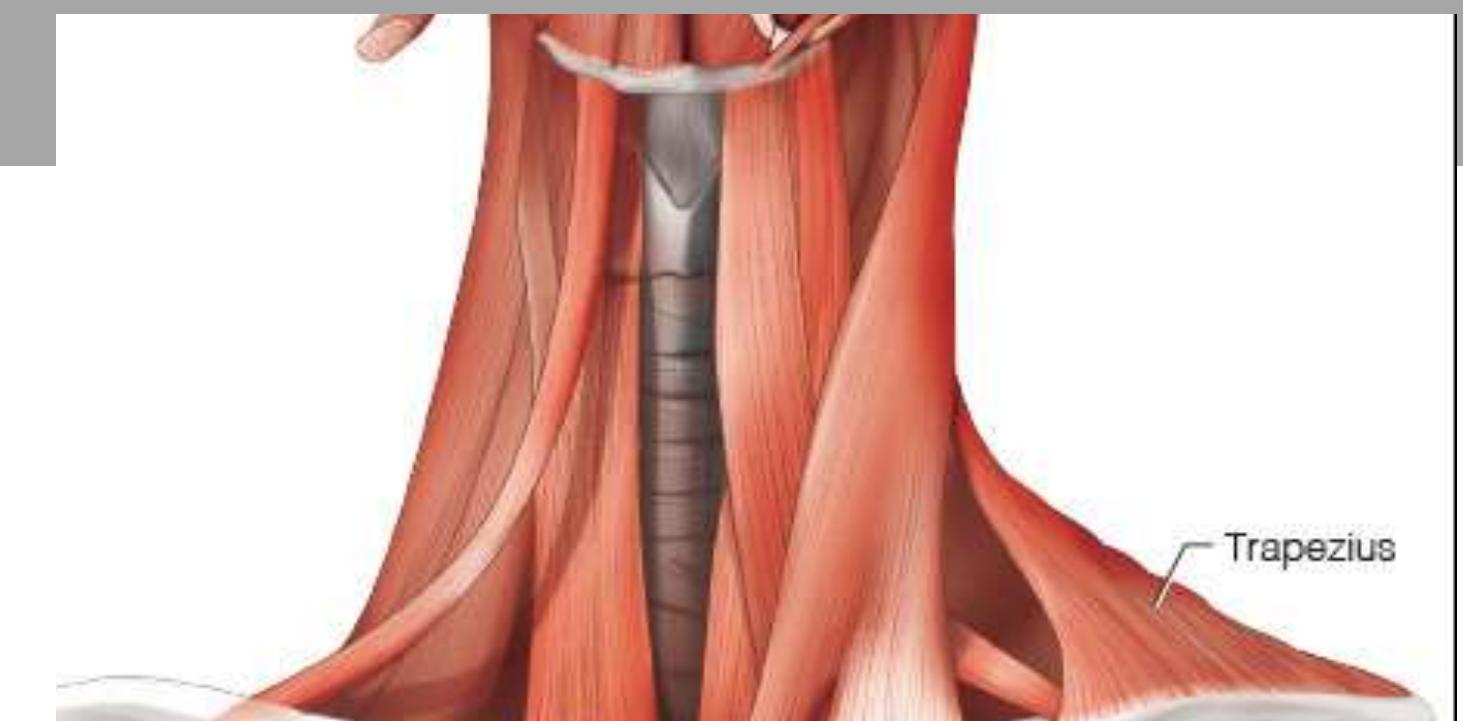
SCM



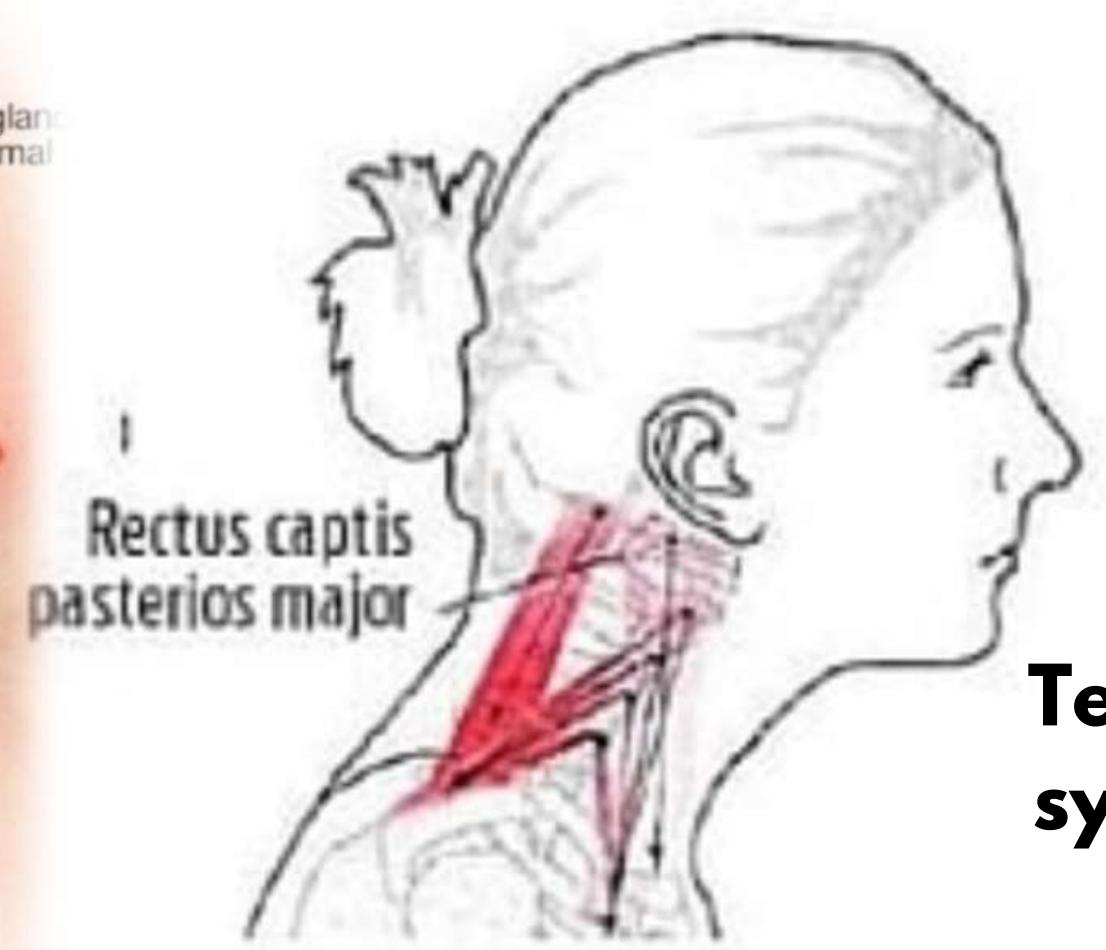
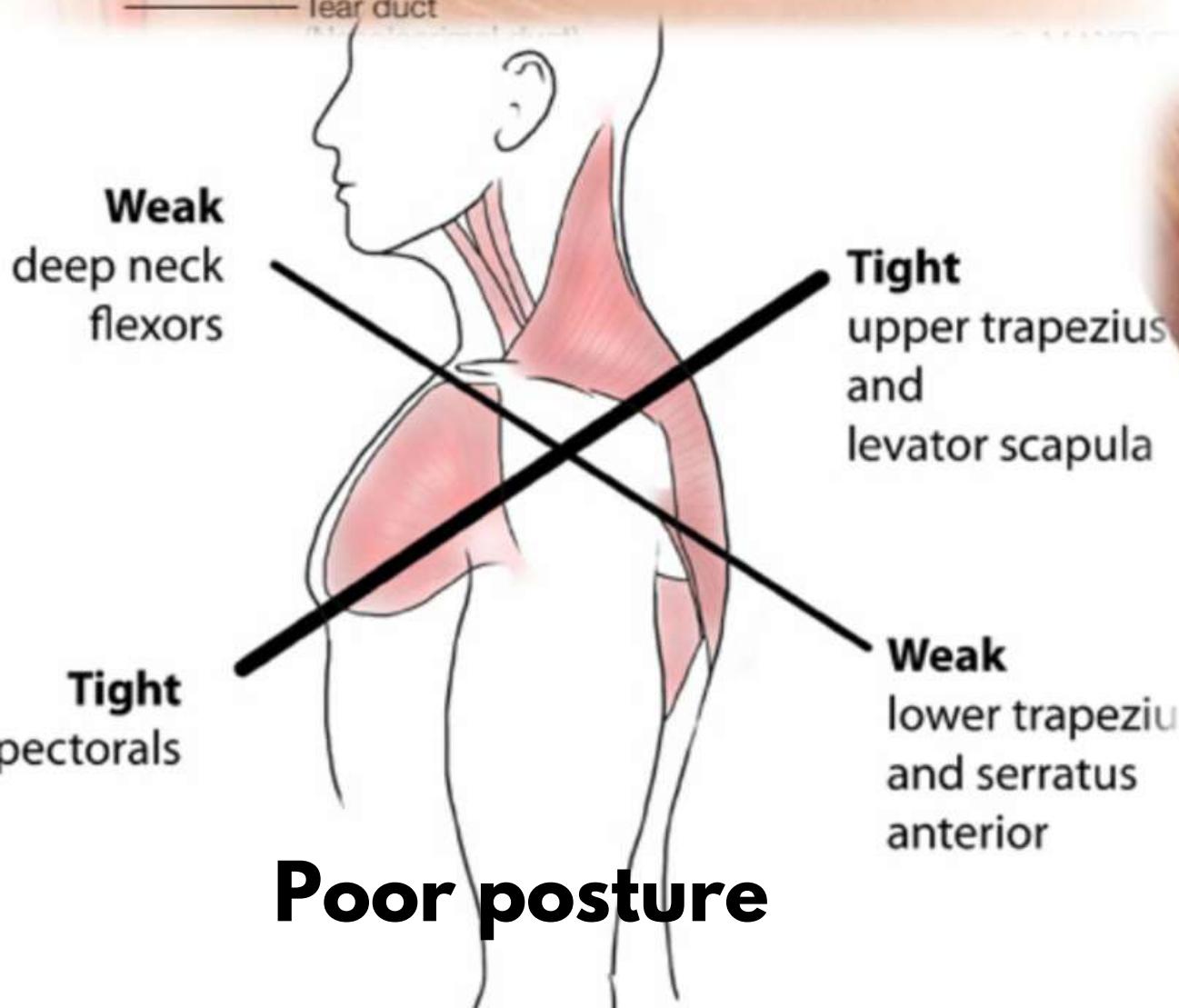
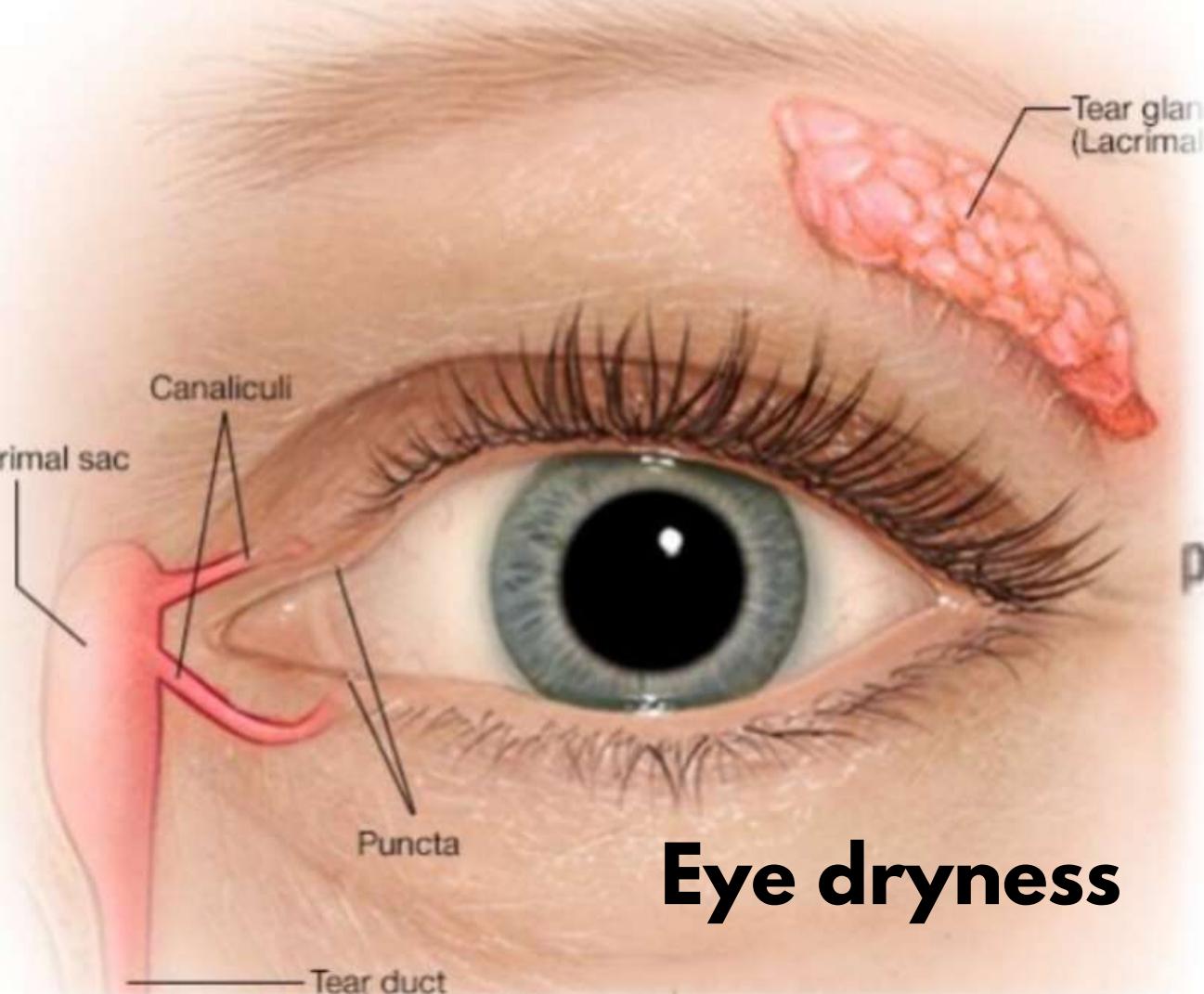
Levator scapulae



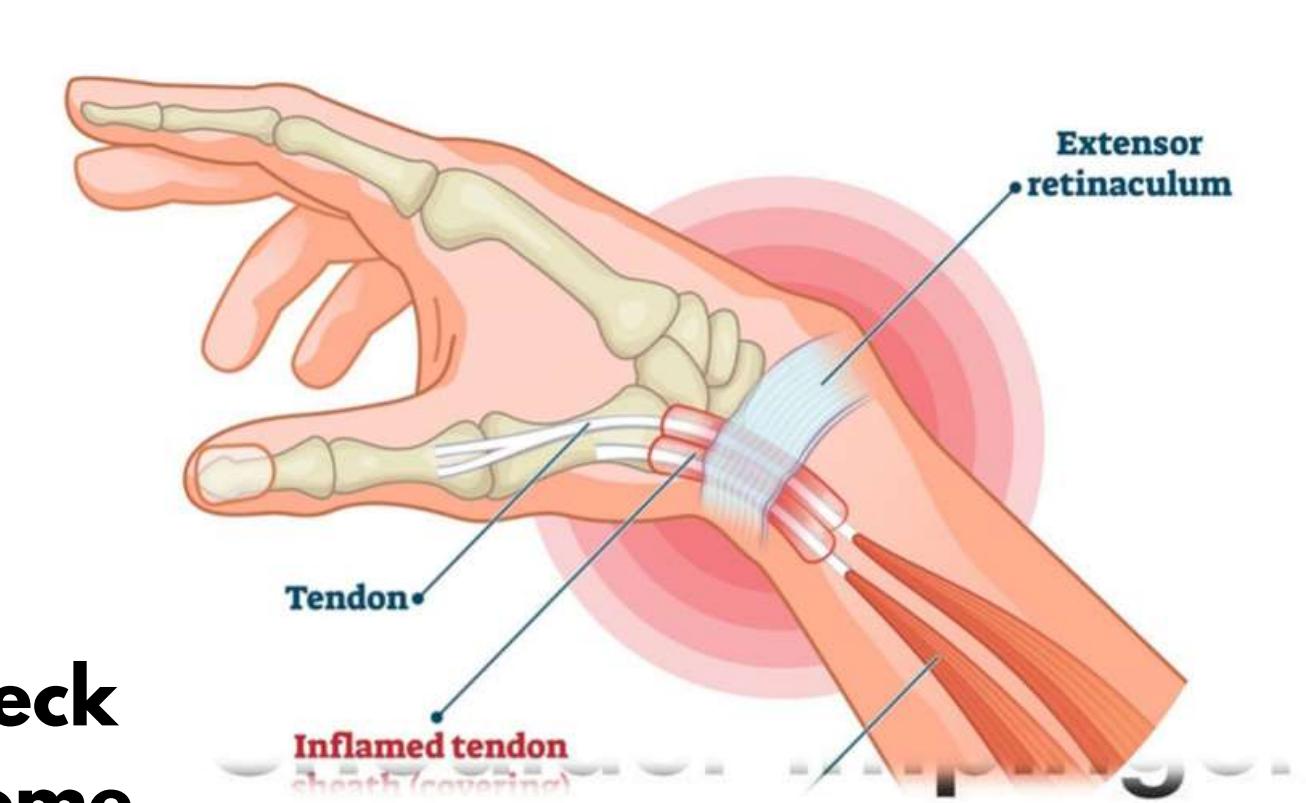
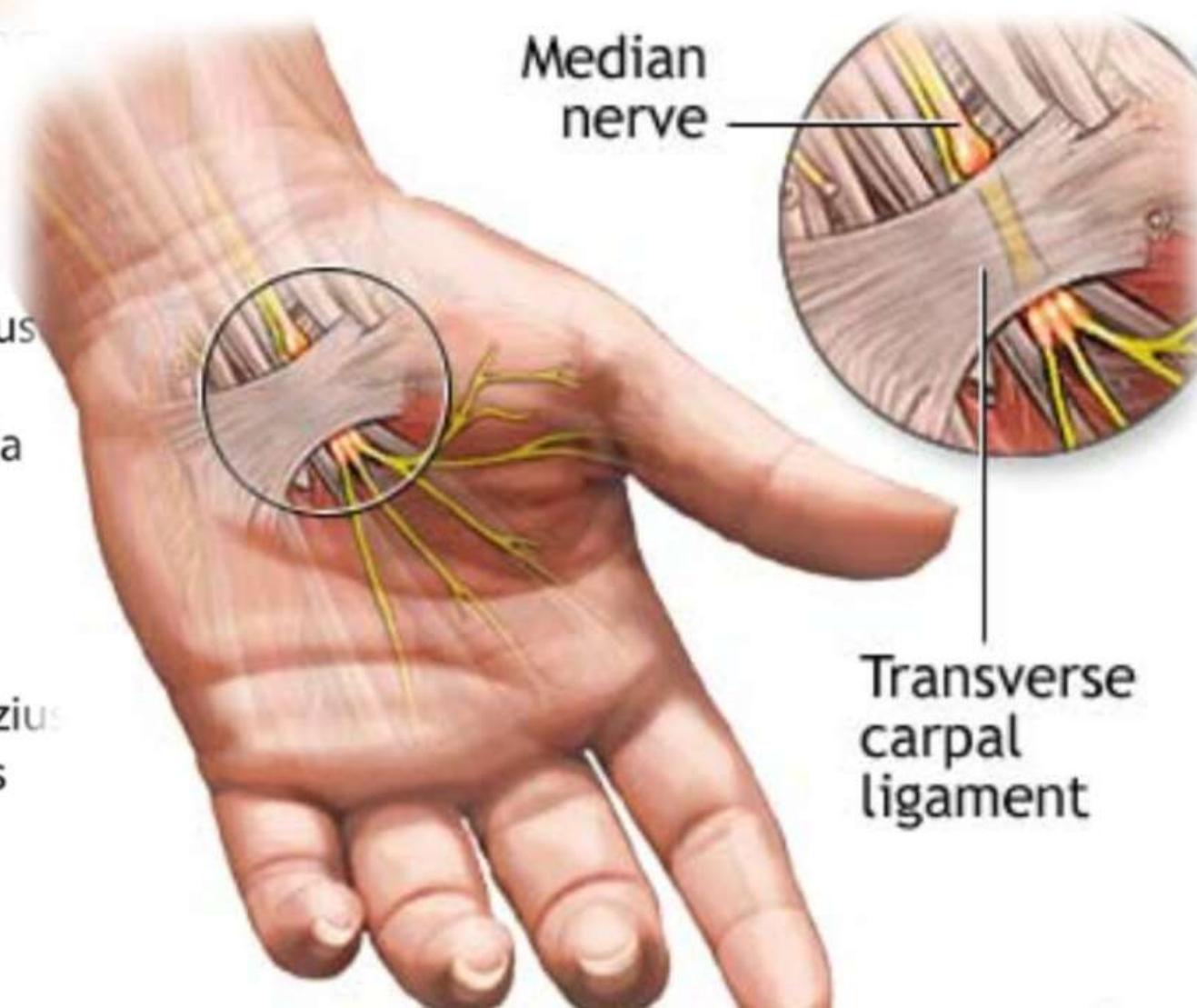
Suprahyoid muscle



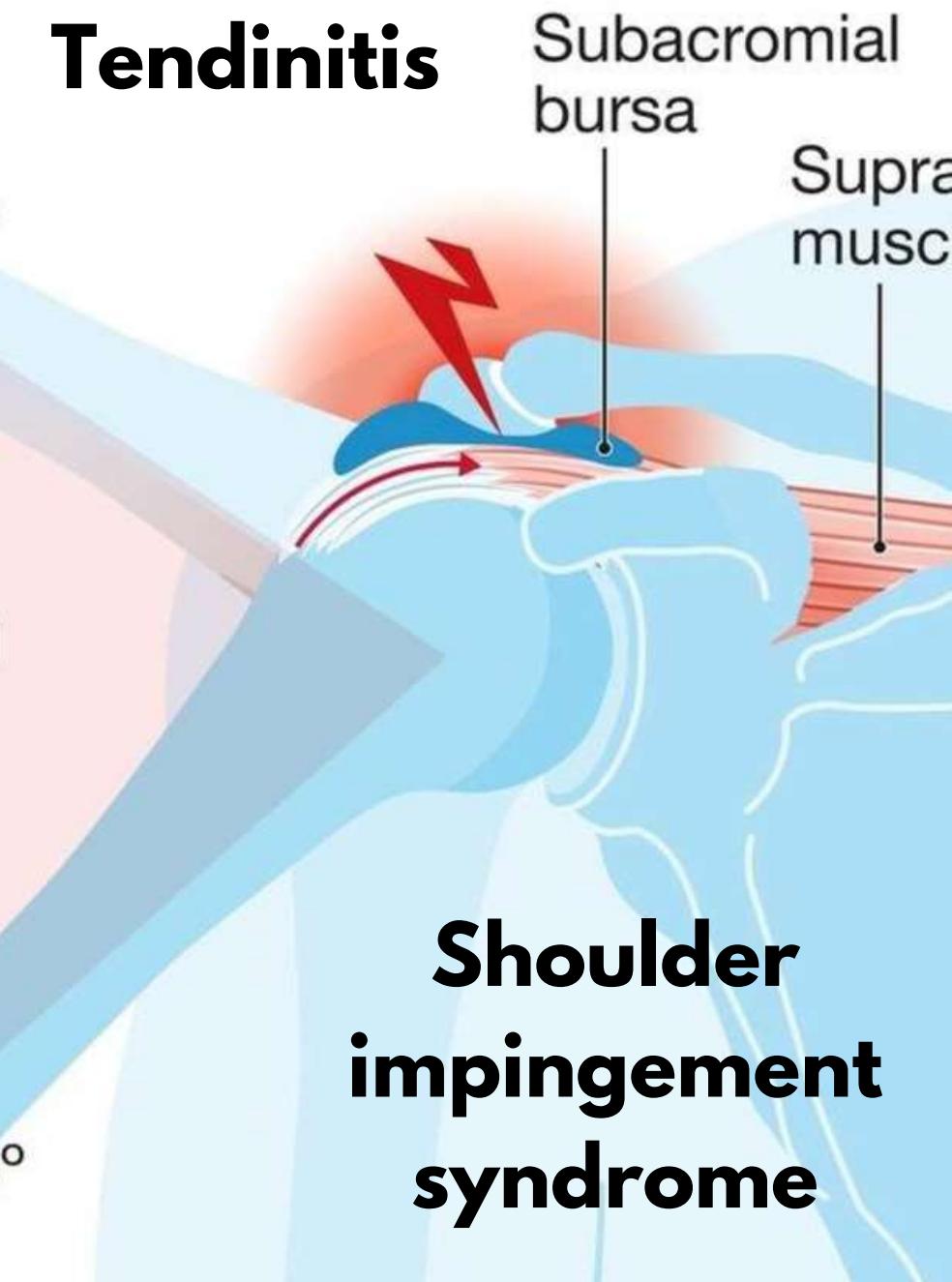
Infrahyoid muscle



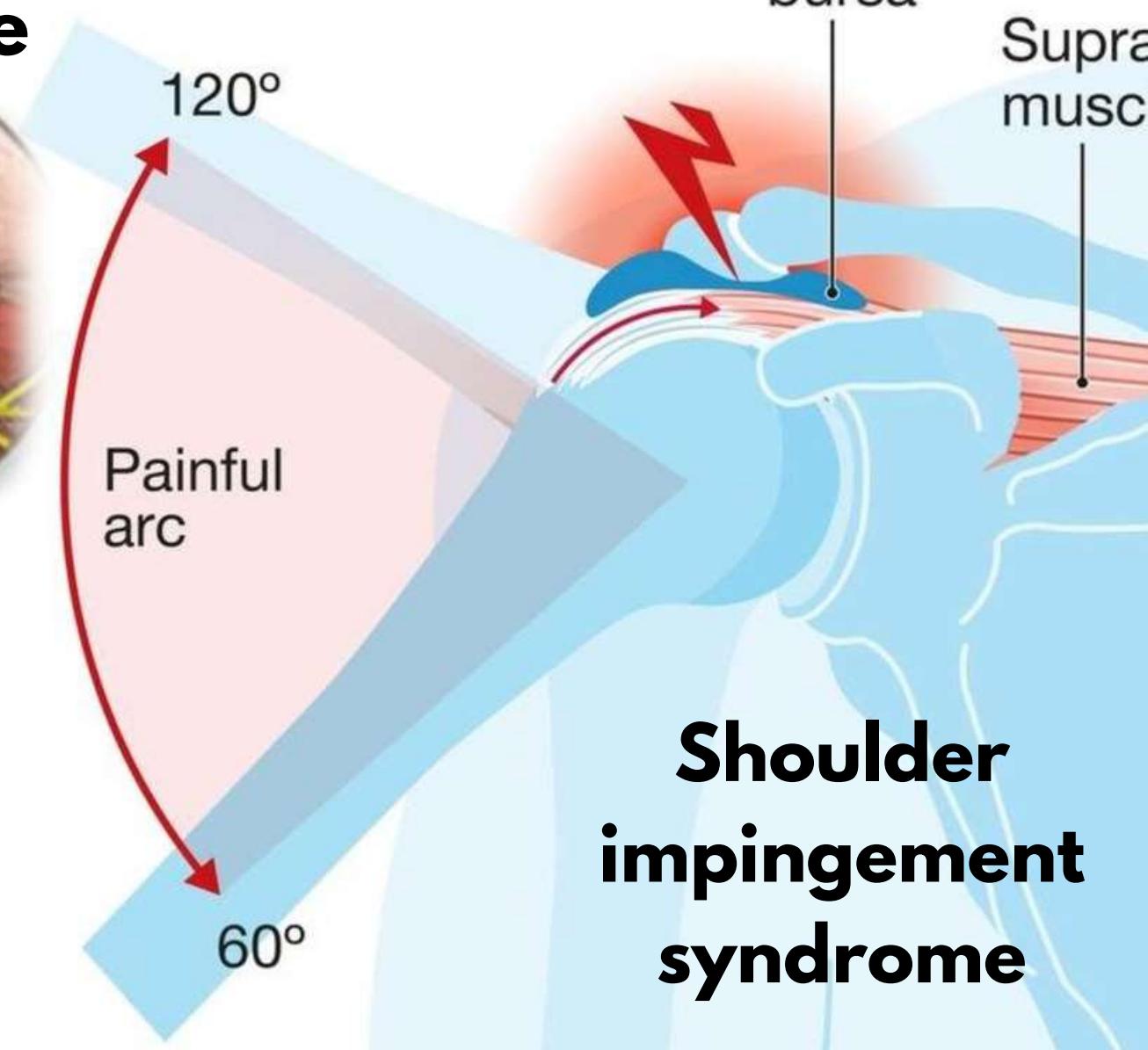
Carpal tunnel syndrome



Text Neck syndrome



Tendinitis



Shoulder impingement syndrome

What is RULA ?

- Evaluate posture and Muscle use and Force Exertion
- Provides a score that indicates the level of risk and the need for intervention



1-2: Acceptable



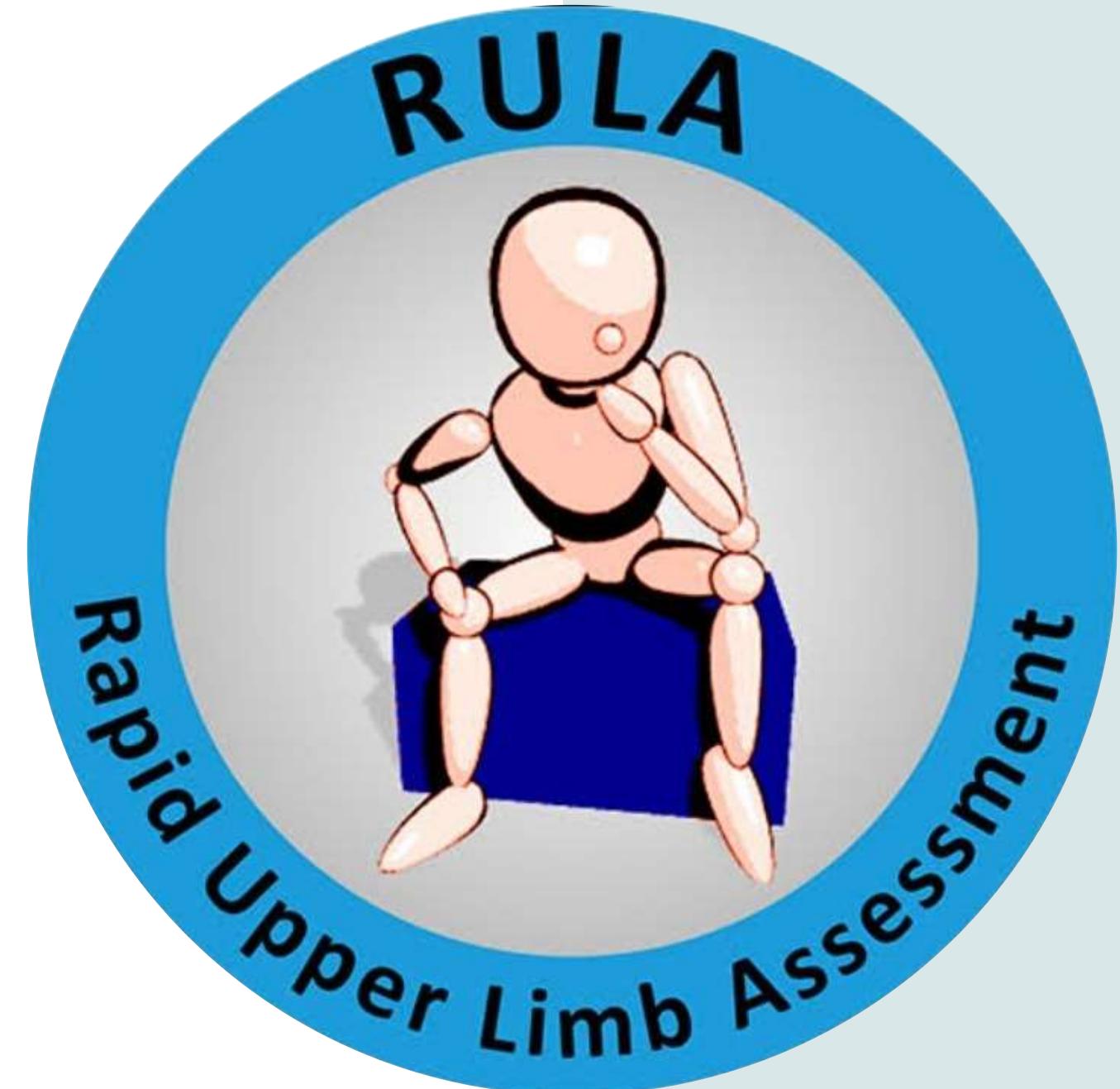
3-4: Low risk

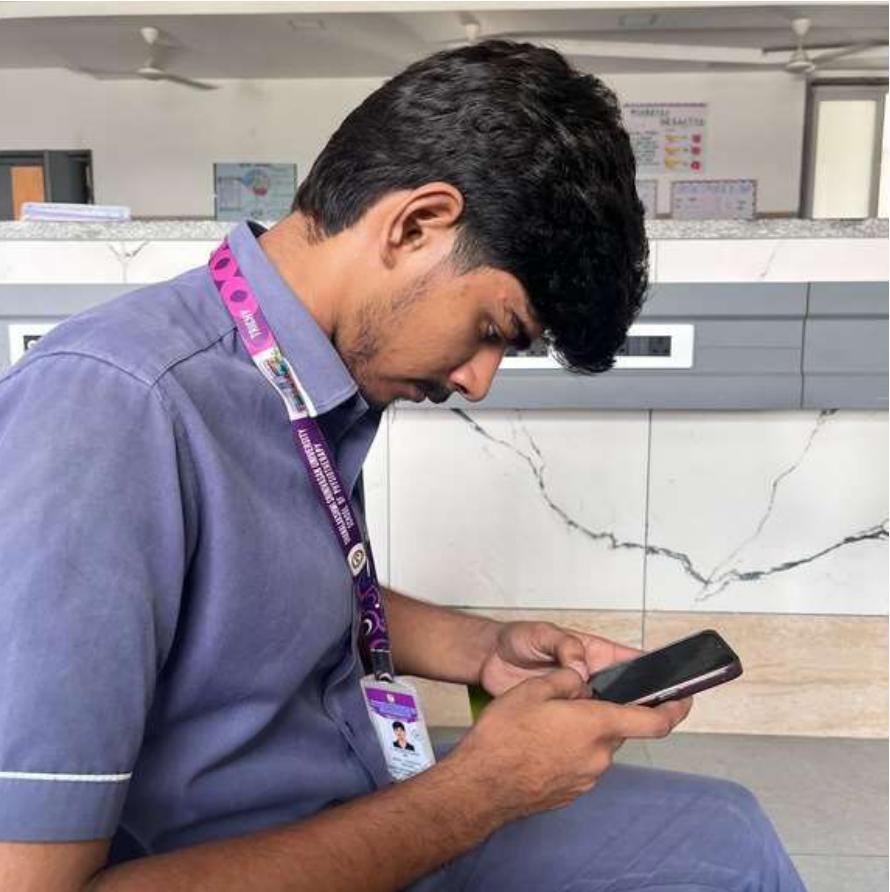


5-6: Medium risk



7+: High risk - Immediate
change required



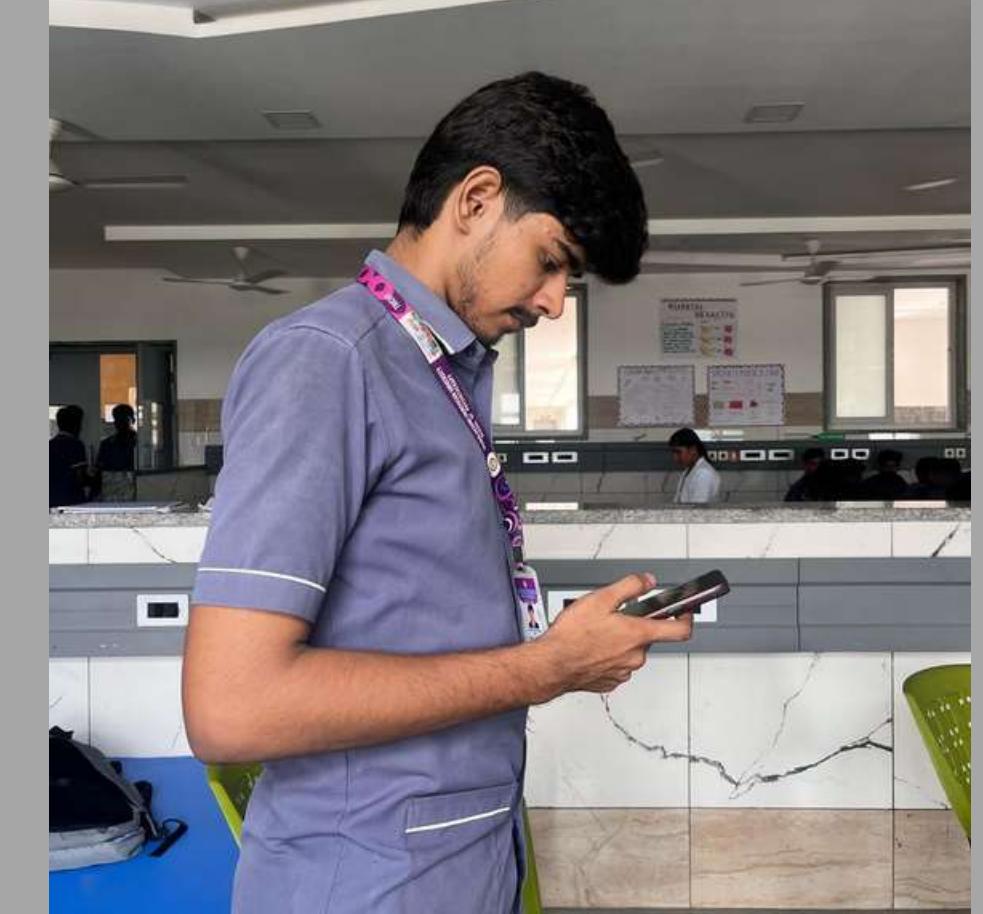
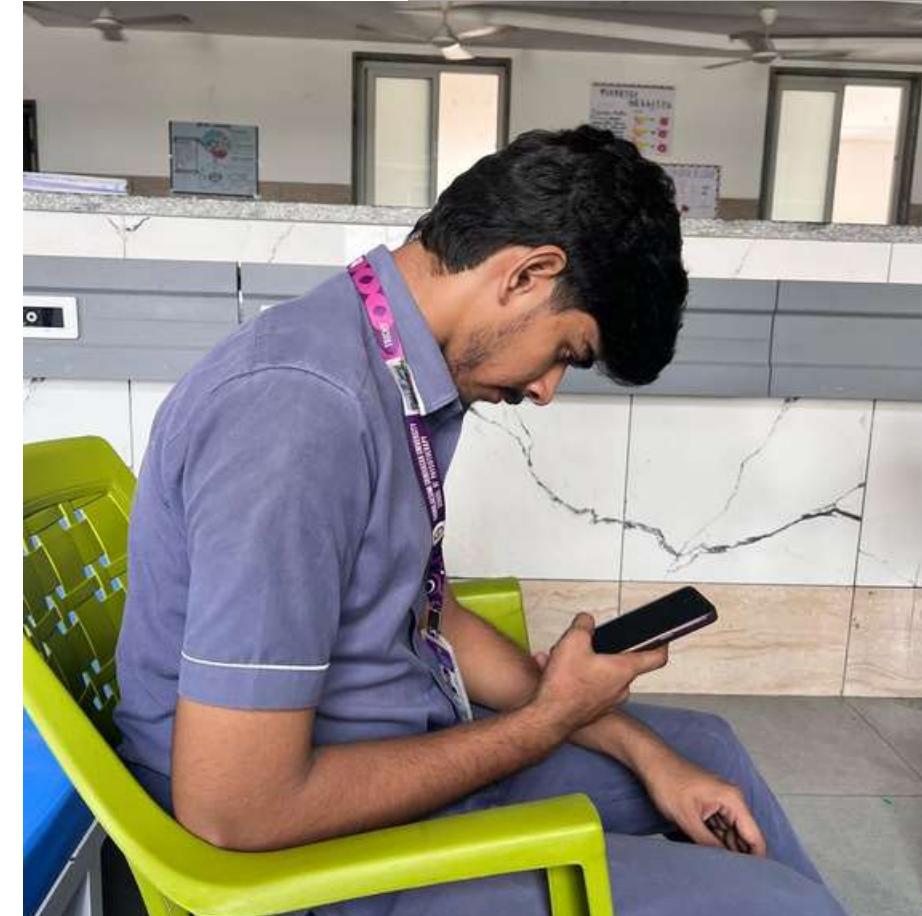


Texting with Both Hands, Head Down

Rula - 6 to
7

One-Handed Use (Scrolling or Texting)

Rula - 5 to
6



Walking While Looking Down at Phone

Rula - 5 to
6



Typical Postures and Corresponding RULA Scores for Phone users

Task /Activity	Posture observed	RULA score
Texting with Both Hands, Head Down	Neck flexed, shoulders lightly hunched, thumbs tapping	6-7
One-Handed Use (Scrolling or Texting)	One arm raised, neck tilted, wrist bent	5-6
Walking While Looking Down at Phone	Forward head posture, arms in front, gait altered	5-6

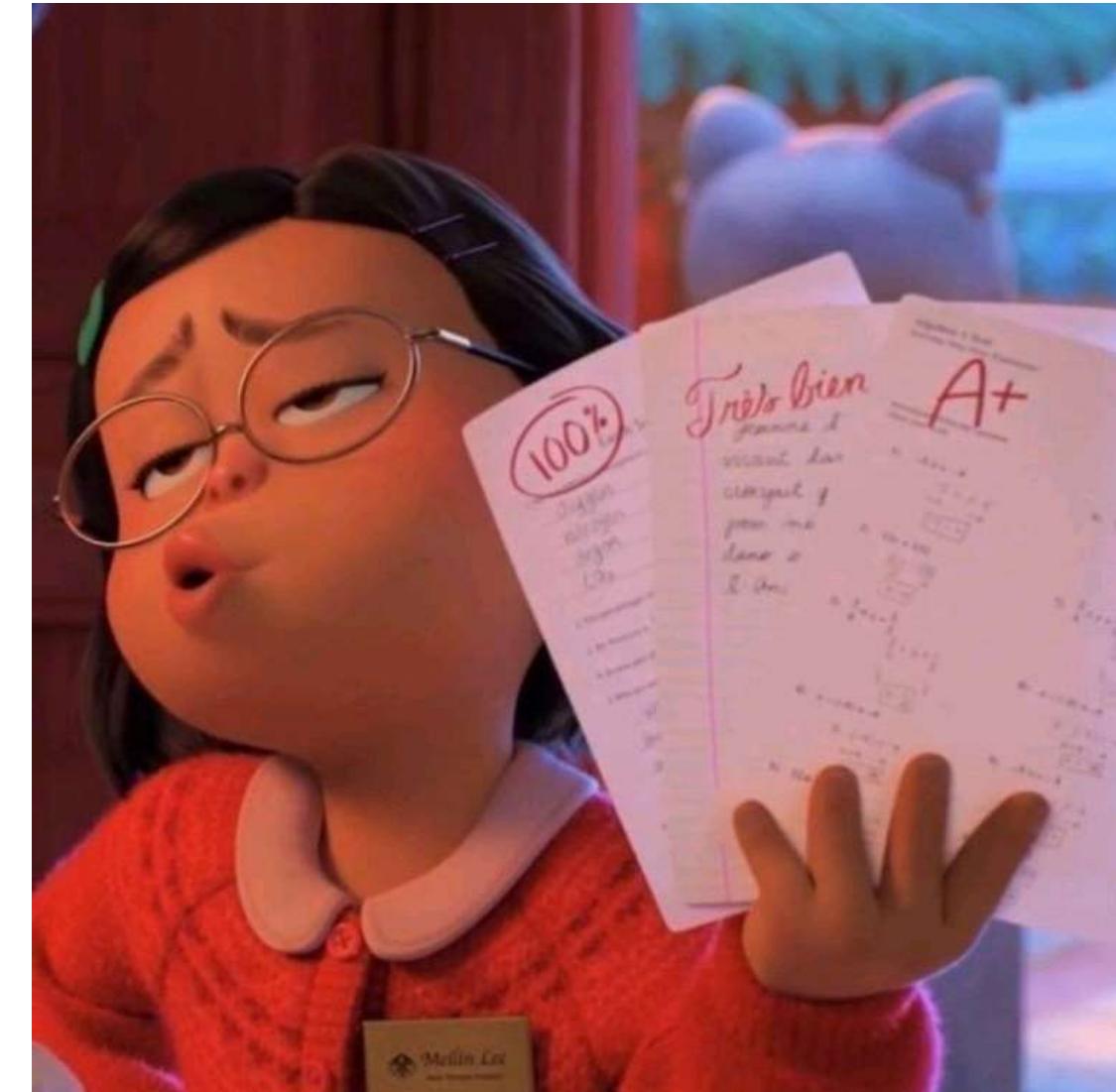
Future Recommendations



1. This Observation might helpfull for a future innovations

2. Activity Modification

- ADJUST SCREEN SETTINGS TO REDUCE BLUE LIGHT
AVOID USING YOUR PHONE IN THE DARK BEFORE BED
- USE VOICE INSTEAD OF TEXT
- TAKE REGULAR BREAKS



BE AWARE OF YOUR POSTURE
SAY NO TO OVERUSE THE MOBILE PHONE

Thank you