Pediatric Chronic Pain: Considerations for the Virtual Physical Assessment

March 11, 2021

ECHO Boot Camp

Faculty/Presenter Disclosure

- **Faculty:** Anne Ayling Campos
  - **Special thanks to Giulia Mesaroli & Sara Klein!**
- **Relationships with commercial interests:**
  - **Grants/Research Support:** none
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  - **Consulting Fees:** none
  - **Other:** Employee of The Hospital for Sick Children

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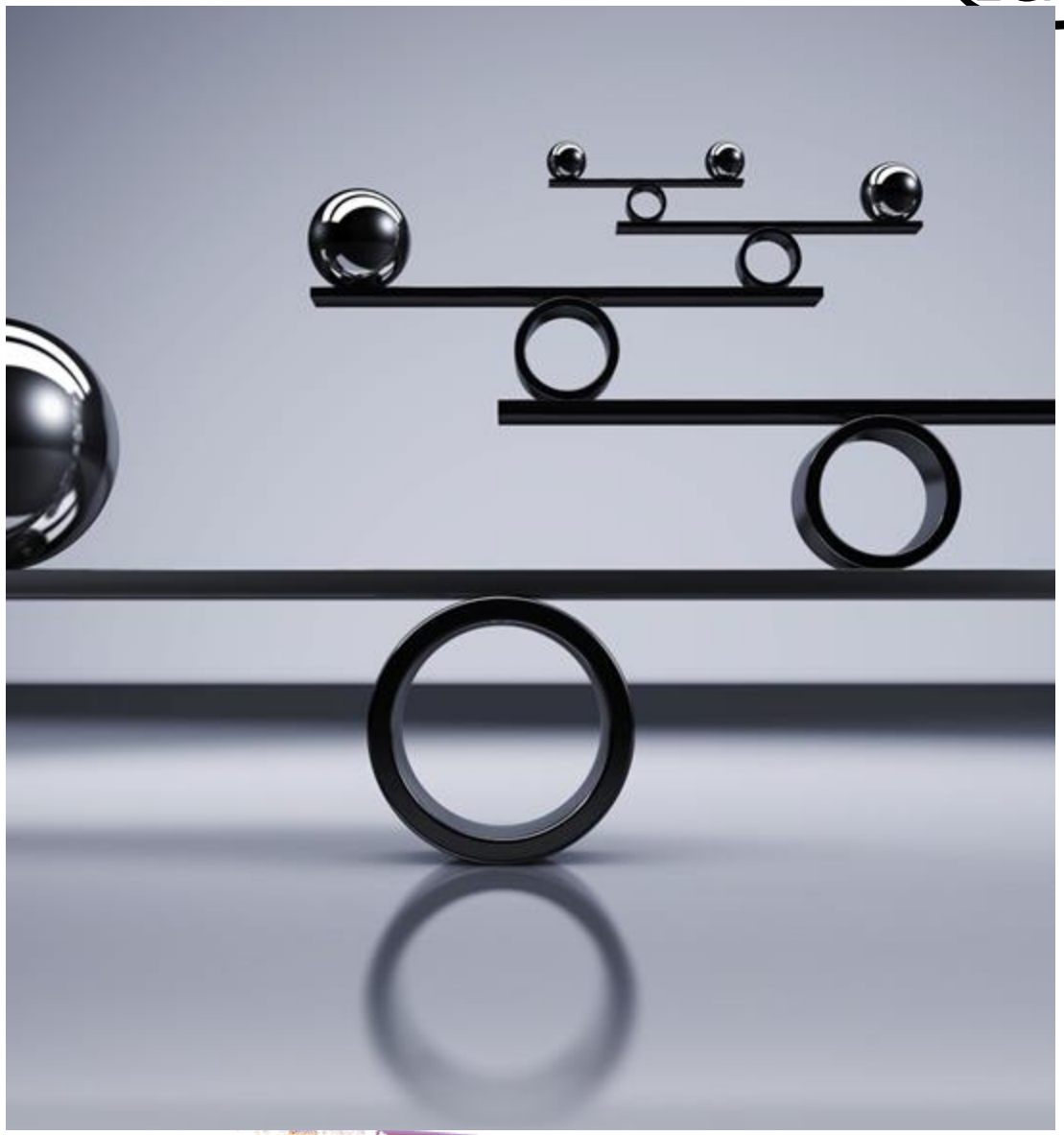
Learning Objectives

By the end of this session, participants will be able to:

- ✓ Apply a systematic **approach** for the physical assessment of a child with chronic pain
- ✓ Learn effective **methods** to optimize telemedicine platforms when performing pediatric physical assessments with a pain focus
- ✓ Be open to **creative problem-solving** strategies to address circumstances that can occur with a virtual assessment

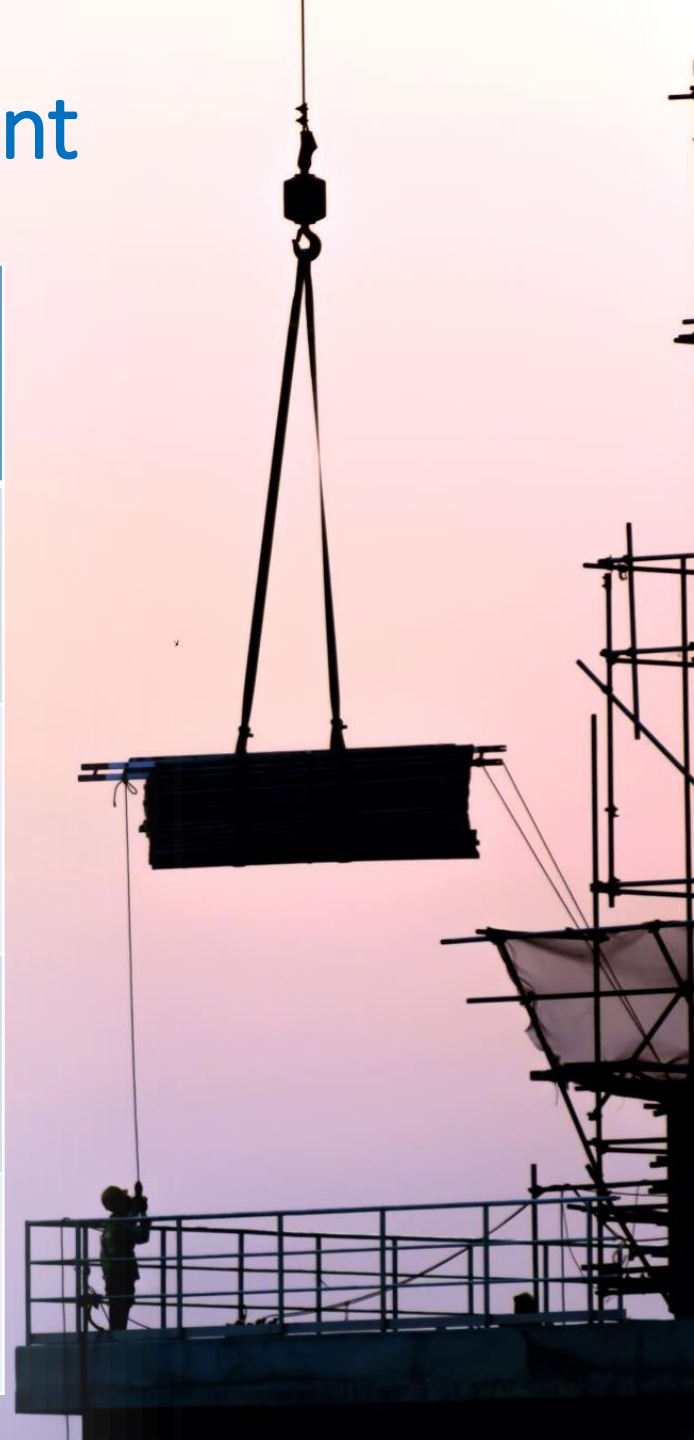
Goals of conducting a physical assessment

- **Build** patient's **trust**
- **Identify** dominant pain mechanism/or pain diagnosis
- **Rule out** red flags or sinister pathology
- **Evaluate** the impact of pain on physical function

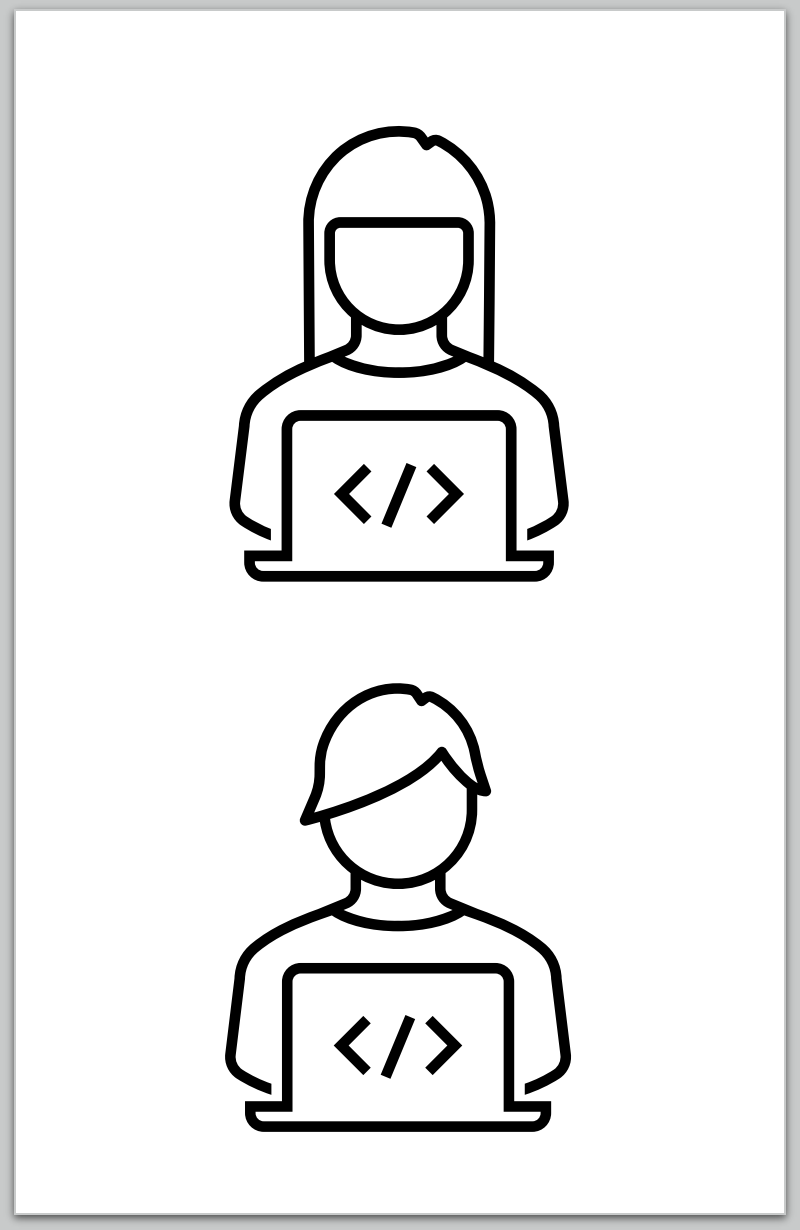


Scaffolding for a pain focused physical assessment

Comprehensive **neuromusculoskeletal** evaluation		
Observation	Begins as soon as the child and parent begin the visit on screen	• Overall presentation • Demeanour • Willingness to engage
MSK	**Inspection** **Palpation** **Range of Motion (AROM)**	• Symmetry, posturing • Tenderness, trigger points • Range, limits, ease of movement
Neurologic	**Strength, Functional strength** **Sensation** **Reflexes**	• MMT, functional strength • Sensory functioning • Grade 0-4
Target special tests	The patient's complaints should establish a direction for targeted tests	• Hypermobility • CRPS symptoms



March 12, 2020
Pivot Shift



Telemedicine - virtual clinical care participation

- How much of your current clinical pediatric practice is conducted through a virtual platform?

A) none

B) 1-25%

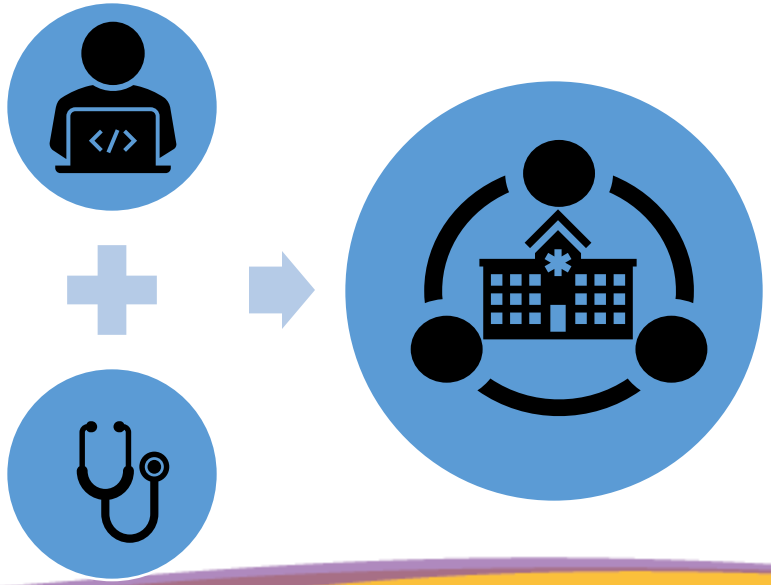
C) 26-50%

D) 51-75%

E) 76-100%

The use of telemedicine in chronic pain

- **Benefits**
- Psychosocial and motivational factors
- Convenience and improved access
- Gaps in medical care can be bridged by telemedicine
- Comprehensive evaluations can be performed remotely



- **Drawbacks**
- Potential for diminished quality for patient-provider interaction
- Limited ability to perform a physical exam
- Psychological/social history challenges
- Patient engagement issues

Telemedicine for Chronic Pain in the COVID-19 Era and Beyond, Emerick et al. Pain Med 2020 ; 21:1743-1748

What's wrong with this set-up?

- How many areas can be improved to optimize a pain focused physical exam for right arm and neck pain?
  - A) None
  - B) 1 - 2
  - C) 3 - 5
  - D) 6 - 7

Considerations for optimizing the virtual visit & exam

- Prior to the physical examination, the following elements are recommended:
  - ✓Examiner looks at the video image of the patient, remember to occasionally look directly at the camera = looking the patient in the eyes
  - ✓There may be an audio lag, give the child 2 seconds or so after they stop speaking before talking
  - ✓One finger rule to point to the area of pain and delineate any radiating pain
  - ✓Adequate room for movement components of exam
  - ✓Good lighting
  - ✓Additional person can be used to adjust the camera or assist with child's needs
  - ✓Dressed in shorts and T-shirt to support exam observation

Optimizing the virtual physical assessment

- Engage the child , maintain rapport developed during interview portion of the visit
- Ask for permission to start the physical assessment
- Review items needed for the exam
- Clearly communicate, simple directions
- Consider demonstrating the examination technique
- Remain calm, be flexible and improvise the exam depending on child's level of co-operation
- Avoid…
  - medical jargon
  - drawing attention to any abnormal findings

Virtual physical examination: Be watchful

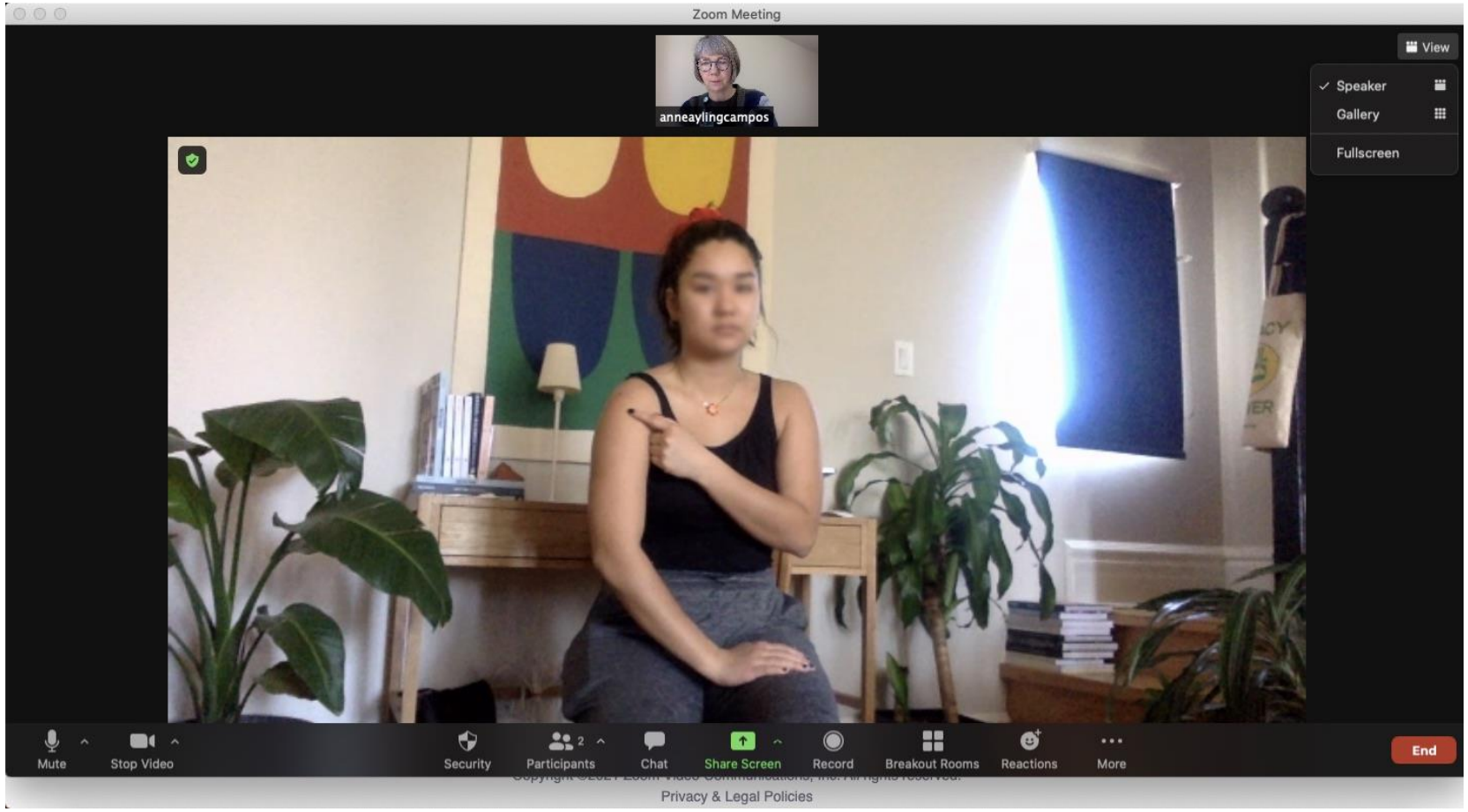
Observation

- Start of visit note behavior and level of engagement, compare at ease to on command actions/movement
- Nervous, hesitant, hypervigilant to sensations
- Pain behaviors, audible noises, restlessness, neglect of a limb

Inspection

- Skin - rashes, colour, texture, scars, infection, bruising, self-harm indicators
- Joints – swelling, symmetry, atrophy
- Protective pain postures, posture abnormalities

An examination rule – be specific



Virtual physical examination: Reproduction of tenderness/pain

Palpation

- Self or parent palpation: above, below and over the area of pain
- Soft tissue, bone, joint line or other
- Note if area being touched is warm or cold in temperature

Motor

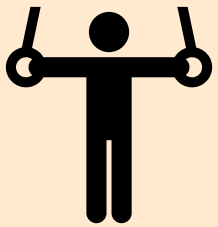
- Range of movement (AROM) gross to specific or through a functional task
- Movement quality, hesitation or fear
- Describe in terms of degrees or through descriptors of mild, moderate or severe

Virtual motor assessment

Virtual physical exam: Neurologic assessment

Strength

- Manual muscle testing – get a parent involved, compare sides
- Functional strength tests with a reference for myotomes – can make it a functional task in the virtual setting

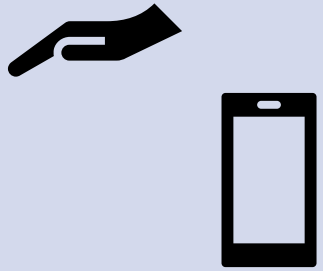


Sensation

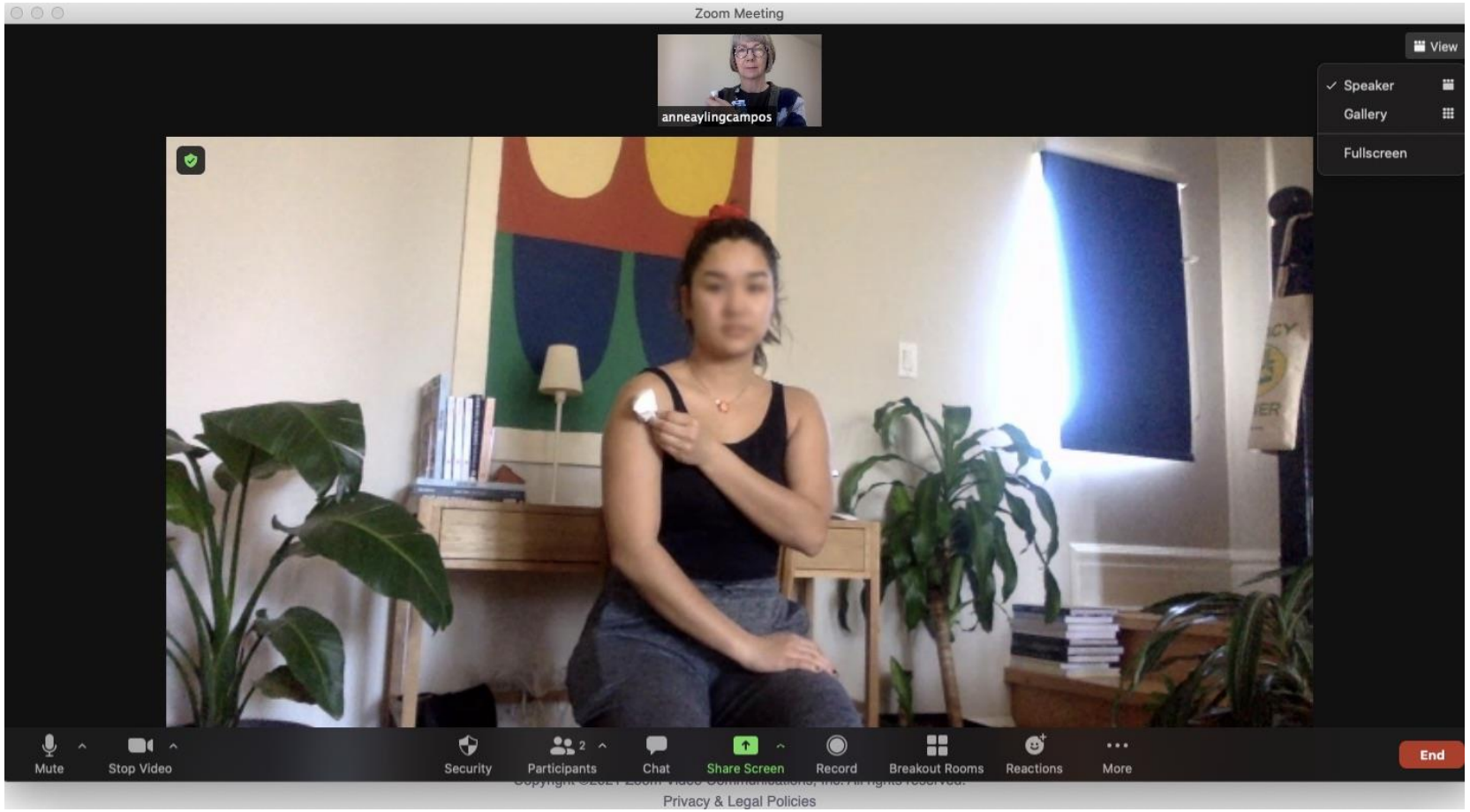
- Sensory functioning using 2 modalities
- Presence of hyperesthesia – allodynia and/or hyperalgesia
- Accomplished through sensation testing using items at hand – breath, tissue or cotton ball, end of pen cap or toothpick
- Pattern – anatomical consistency with tests

Reflexes

- Assists with overall neurologic
- Items for home testing can be a rubber spatula, side of hand or the side of a smart phone



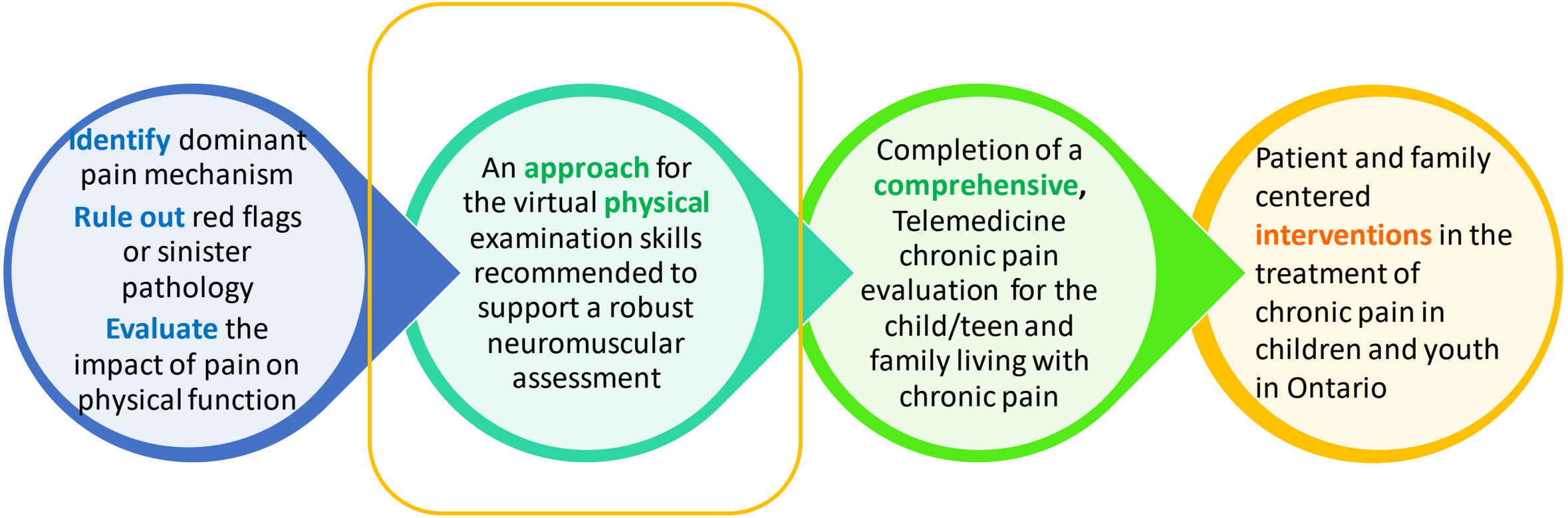
Sensation testing in virtual exam



Special tests related to pain history, interview & exam

- Joint hypermobility – Beighton Score
- CRPS-1

Revisiting the exam goals and process



References:

- https://www.cps.ca/en/blog-blogue/virtual-care-during-a-pandemic
- Laskowski ER, Johnson SE, Shelerud RA, Lee JA, Fabatin AE, Driscoll SW, et al. The Telemedicine Musculoskeletal Examination. *Mayo Clin Proc* 2020 Aug; 95(8): 1715-1731 doi:10.1016j.mayocp.2020.05.026.
- Shenoi S, Hayward K, Curran M, Kessler E, et al. Telemedicine in pediatric rheumatology: this is the time for the community to embrace a new way of clinical practice. *Ped Rheum* 2020; 18:85 doi:org/10.1186/s12969-020-00476-z
- Emerick T, et al. Telemedicine for Chronic pain in the COVID-19 Era and Beyond. *Pain Med* 2020; 21:1743-1748 doi: 10.1093/pm/pnna220 commentary
- Benziger CP, Heffman MD, Sweis RN, Stone NJ. The Telehealth Ten: A Guide for a Patient-Assisted Virtual Physical Examination. *Am J Med* 2021 Jan; 134: 48-51 doi:org/10.1016/j.amjmed.2020.06.015
- Rabatin AE, Lynch ME, Severson MC, Brandenburg JE, Driscoll SW. Pediatric Telerehabilitation medicine: Making your virtual visits efficient, effective and fun. *J Ped Rehab Med* 2020; 13:355-370 doi:10.3233/prm-200748

Q & A on the virtual physical examination in chronic pain for children and teens