

# The Virtual Musculoskeletal Exam

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# LAND ACKNOWLEDGMENT

We acknowledge that we work on the traditional, ancestral and unceded territory of the Skwxwú7mesh (Squamish), x<sup>w</sup>məθkwəy'əm (Musqueam), and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) Nations.



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# PRESENTER DISCLOSURES

**Name: Dr. Brent Ohata**

## **Relationships with commercial interests:**

- Grants/Research Support:
  - Investigator Initiated Grant: Abbvie
- Advisory boards:
  - Abbvie, Gilead, Janssen, Novartis, Pfizer, Sandoz, UCB, Celltrion, Fresenius Kabi.
- Speakers fees/Honoraria:
  - Abbvie, Celgene, Janssen, Pfizer UCB, Lilly, Teva



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# MITIGATION OF BIAS

- Relationships do not affect my choices in developing content.
- Not speaking about any products or medications that I have a financial interest in



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# LEARNING OBJECTIVES

- Identify multiple physical exam maneuvers that can be performed by video telehealth.
- Identify resources available for improving a virtual MSK exam.



# POLL QUESTION

When indicated, which aspects of the virtual physical exam do you perform routinely?

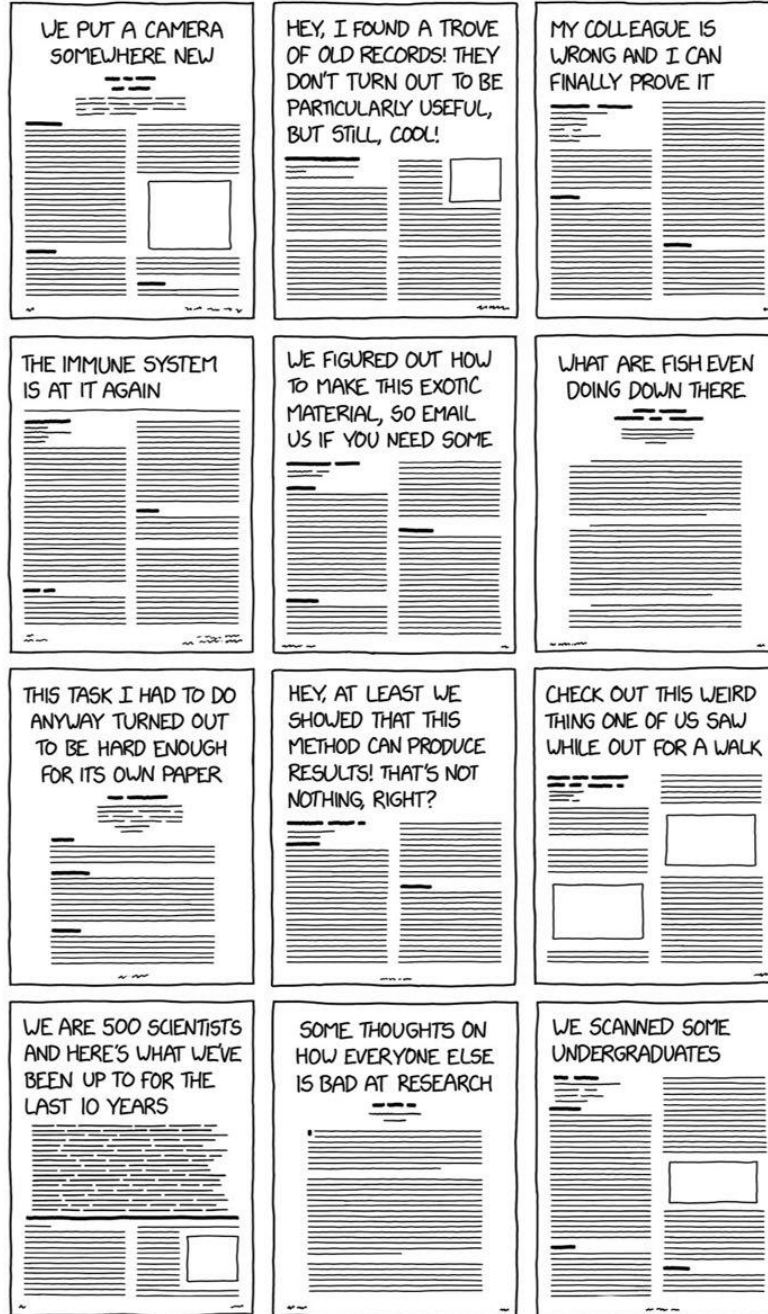
- Dermatologic exam
- Neurologic exam
- Musculoskeletal exam
- All of the above
- None of the above



# Rheumatology Virtual Health Literature Review

<https://xkcd.com/2456/>

## TYPES OF SCIENTIFIC PAPER



# MSK EXAM RESOURCES

Articles/resources addressing the virtual MSK exam are expanding:

- Bone and Joint: <http://boneandjointcanada.com/virtual-care/>
- Mayo Clinic: The Telemedicine Musculoskeletal Exam.  
[https://www.mayoclinicproceedings.org/article/S0025-6196\(20\)30542-5/fulltext](https://www.mayoclinicproceedings.org/article/S0025-6196(20)30542-5/fulltext)
- Coming soon (~Feb 2022)! CRA virtual care modules.  
<https://rheum.ca/education/educational-resources/>

Limitations:

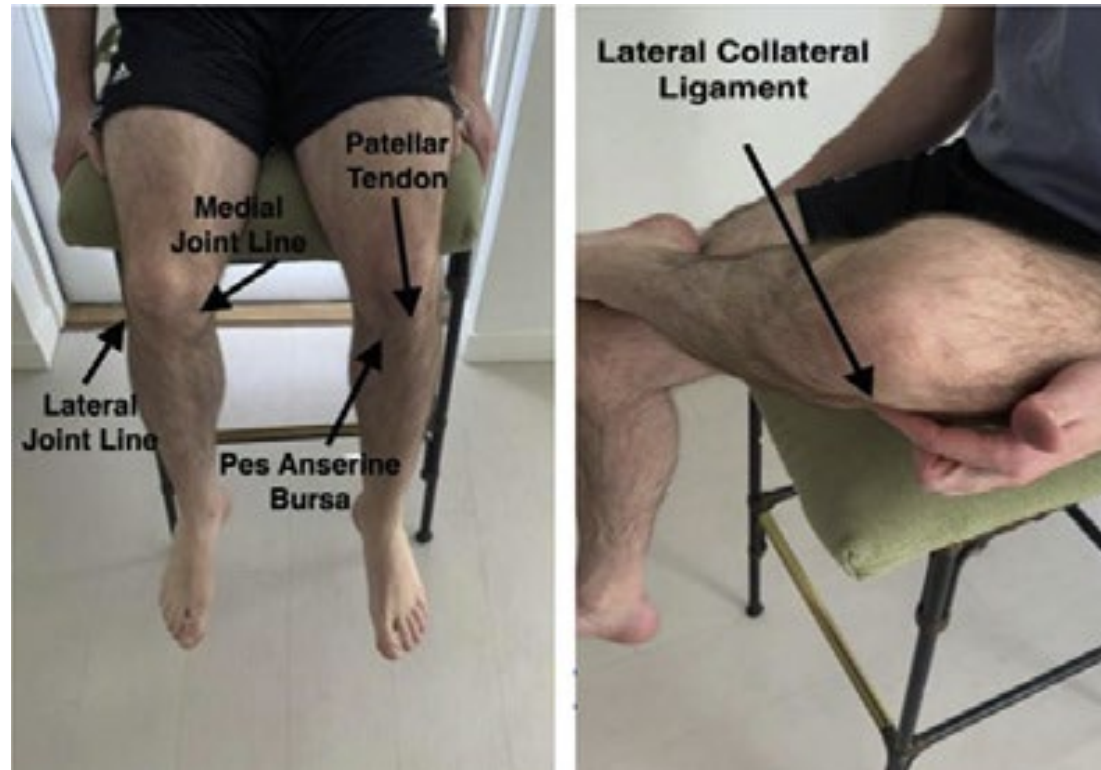
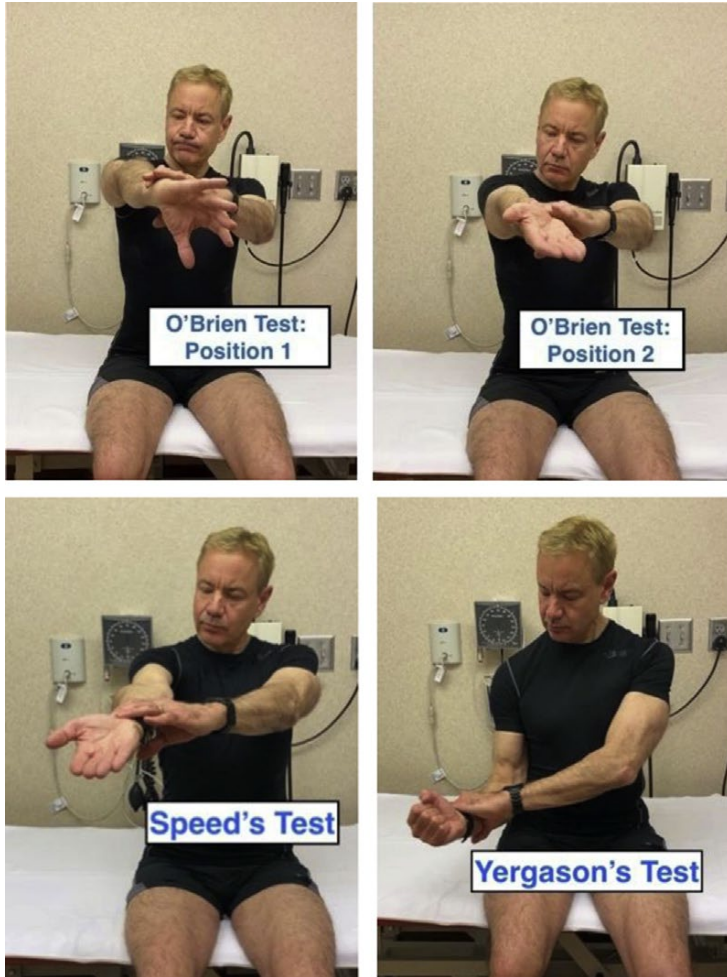
- Most resources are eminence-based.



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# MAYO CLINIC PROCEEDINGS



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# BONE AND JOINT CANADA

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## How to Set Up a Virtual Assessment

**Virtual Assessment for Musculoskeletal Patients, How to set up a program** provides an overview of how the HCP can prepare their practice to ensure the success of the virtual assessment including information shared with the patient.

## Completing a Clinical Assessment

**Virtual Assessment for Musculoskeletal Patients, Completing a Clinical Assessment** provides information on how to complete a clinical assessment for:

- Hip and knee
- Spine
- Upper Extremity
- Foot and ankle

## Virtual Care to Improve Care for People Across Canada

**Virtual care of Musculoskeletal Conditions: Policy requirements to build a sustainable system** provides a information on the improvements to care for people across Canada using virtual technology and the policy requirements to ensure the benefits can be optimized into the future.

<http://boneandjointcanada.com/virtual-care/>

## How to Set up Virtual Care

TOOL	DESCRIPTION
Canadian Physiotherapy Association	Information to support Telehealth use in physiotherapy due to COVID-19
Canadian Medical Association/College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada Virtual Care Recommendations for Scaling up Virtual Medical Services	Report of the virtual care taskforce
Physiotherapy Association of British Columbia	Virtual Care Toolkit that includes a range of tools on consent, intake, set up and measurement for virtual care.
Tele rehabilitation Toolkit for Outpatient Rehabilitation Programs Telerehab Implementation Toolkit (November 30, 2020) <ul style="list-style-type: none"><li>• Presentation</li><li>• Webinar Recording</li></ul>	A Toolkit developed for TRI Outpatient Rehabilitation Programs that includes information on implementation and evaluation of virtual rehabilitation.
Rehab Care Alliance Tele-Rehab Webinar (May 13, 2020)	The Rehabilitation Care Alliance hosted a webinar that shares experiences from providers across the province with implementing tele-rehab and includes: Key considerations and enablers of using



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## Knee

### Measurement of ROM

- The following table identifies the ways to measure ROM. Each has benefits and drawbacks related to the accuracy and the time to get the measurement. Select the technique that provides the optimal level of information to determine and inform treatment. A screen shot can be taken if this will assist in measurement for future care.

Measurement	Benefits	Drawbacks	Notes
<b>Visual (eye ball)</b>	Easy to complete Minimal time requirements  NB: Option to use computer screen to measure gross ROM for shoulder e.g. upper corner Approx. 135 degrees	Lacks accuracy	If accuracy is not required as changes in ROM over serial assessment are not expected, gross changes are expected, or assessing relative motion compared to contralateral side
<b>Place a goniometer on the computer screen</b>	Increased accuracy with a good camera angle and picture. Moderate time requirements.	Increased time to position patient to get a good camera angle and picture. Reduced ability to compare during re test	If changes to ROM over time are expected, and more accurate measurement is required
<b>Built in/ on screen goniometer e.g. Protractor extension for Chrome</b>	Increased accuracy. Moderate time requirements.	Increased time as have to position patient and access to the protractor tool	If changes to ROM over time are expected and accurate measurement is required

Movement		Lying	Sitting	Standing
Flexion	Active	Supine: Lift knee to chest with knee bent. Or Slide heel up the firm surface towards the buttocks maintaining contact with the surface	Lift knee to chest with knee bent Or Sit in front of chair, slide foot back under chair	Stand on one leg and lift knee to chest with knee bent
	Passive	Supine: Lift knee to chest with knee bent. Use hand or belt on ankle to pull knee to chest Or Slide heel up the towards the buttocks maintaining contact with the surface. Use other ankle to put pressure on the leg	Lift knee to chest with knee bent. Use hand to pull knee to chest	Stand on one leg and lift knee to chest with knee bent. Use hand to pull knee to chest
Extension	Active	Supine: Straighten leg down on firm surface	Sit at front of chair and extend knee keeping heel on floor Or Extend knee (measures at 90 degrees hip flexion)	Stand and actively straighten leg
	Passive	No test	Sit at front of chair and extend knee keeping heel on floor, apply pressure with hands just above the knee cap	



# MY MUSCULOSKELETAL EXAM



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# POLL QUESTION

After this presentation, do you feel more confident performing a virtual MSK exam?

- No change in confidence
- Slightly more confident
- Significantly more confident
- I'm going to stick with telephone calls



# THANK YOU!



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