The Motion Lab, Sunny Hill Health Centre at BC Children’s Hospital

Step by Step: Standardizing the Lower Extremity Physical Assessment
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Context and Overview
Our objective is to improve our previous Computerized Gait Analysis (CGA) online course, supported in a 2011 TLEF grant application, with a thorough needs assessment and backwards design approach.

This updated course will teach students a standardized cross-discipline approach to lower extremity physical assessment as defined by consensus-based evaluation at BC Children’s Hospital (BCCH).

Project Goals
Work with New Knowledge and Innovation at BCCH to:
1. Align learning objectives, assessments and activities with an instructional design storyboard template.
2. Remove and replace Flash content with H5P; update plug-in tools; and create new media.
3. Update and reach consensus with physiotherapists across all programs at BCCH to create a new online course with an interactive learning component.

Future Work
We aim to continue our work by creating:
1. Additional case studies of children with pathological gait to our online CGA course.
2. Evaluate the effectiveness in clinical knowledge translation with our 2 online courses compared to traditional in-person classroom methods via pre/post surveys.

Strategy 1: Interactive Assessments

Before
In the original course, students passively read through key definitions of pre-requisite material.

Checkmark: Special Tests (Hip)

measurement of spasticity and/or contracture in rectus femoris
measurement of contracture of pes, rectus femoris, tensor fasciae latae
measurement of tightness in tensor fasciae latae

After
Now, students are prompted to review the key terms via an interactive activity and receive immediate feedback. The activity was made using H5P. This promotes active learning.

Strategy 2: Clearly Segmented Content

Before
Each assessment’s instructions and video were shown separately. Students had to manually select each “tab”.

Video examples of each assessment were done on a healthy, typically developing child.

After
Video of each assessment is displayed along with its instructions. The new “home” button shows full assessment list. This allows for easier navigation and less cognitive overload.

Strategy 3: Annotated & Realistic Video Examples

Before
Video examples of each assessment were done on a healthy, typically developing child.

After
Video examples of children with neuromuscular conditions, necessitating a lower extremity assessment. Videos are annotated with the goniometer angles measured by a physiotherapist.

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