LIGTHS, CAMERA, ACTION
TOOLKIT FOR PHYSICAL EXAMINATION INSTRUCTION

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LEARNING OBJECTIVES

1. Identify various instructional approaches to teaching the physical examination.

2. Discuss benefits and challenges of current teaching methods being utilized in PA programs.

3. Explore the medical literature for integration of teaching strategies that provides accuracy and consistency of exam techniques.

4. Demonstrate one program's unique approach to development and implementation of audiovisual tools to enhance physical diagnosis instruction.

5. Guide faculty in standardizing instructional materials to promote consistency with evaluation and assessment tools.
PHYSICAL EXAMINATION INSTRUCTION

B2.05 The program curriculum must include instruction in patient evaluation, diagnosis and management.

ANNOTATION: Instruction in patient assessment and management includes caring for patients of all ages from initial presentation through ongoing follow-up. It includes instruction in interviewing and eliciting a medical history; performing complete and focused physical examinations; generating differential diagnoses; and ordering and interpreting diagnostic studies. Patient management instruction addresses acute and longitudinal management. Instruction related to treatment plans is patient centered and inclusive, addressing medical issues, patient education and referral.

http://www.arc-pa.org/accreditation/standards-of-accreditation/
PHYSICAL EXAMINATION INSTRUCTION

Physical exam is an essential component of every patient encounter
- Optimal skills are paramount

Common pitfalls
- Instructional methods vary
- Inadequate technique
- Poor habits develop

Routine reinforcement of standardized methods are necessary for success

York, 1999
Barrows, 1968
VARIOUS INSTRUCTIONAL APPROACHES

- Lectures
- Textbooks
- Small groups
- Standardized practice opportunities
- Audiovisual tools
- Other
WHAT BENEFITS AND CHALLENGES ARISE FROM THE CURRENT METHODS BEING UTILIZED IN PA PROGRAMS?
HOW CAN A SKILL BEST BE MASTERED?
ACCURACY, MASTERY AND CONSISTENCY

To master skill, student must

- Receive uniform and standardized protocol to guide learning
- Multi-instructional strategies are recommended

Both students and faculty benefit from easily accessible standardized materials

Descriptive protocols and evaluation checklists provide consistency

- Supports self-directed learning
- Maintains fairness during assessments

Knauber J et al, 2018
Lee H et al, 2018
Vogel D and Harendza S, 2016
Behrends M et al, 2016
Evaluation of skills are assessed during didactic and clinical phases

• Acquiring proficiency does not equate to maintaining techniques over time
• Videos combined with descriptive protocols provide a standard for self-directed learning that can be referenced long-term

Success in teaching leads to success as a clinician
MWU APPROACH TO AUDIOVISUAL TOOL DEVELOPMENT AND IMPLEMENTATION

Physical examination instructional materials:

- Lectures
- Descriptive protocols
- Original videos
- Small group labs
- Standardized checklists
- Simulation practical assessment
LECTURE SCHEDULE
### I. General Inspection; Vital Signs and Skin

#### Standard Exam

<table>
<thead>
<tr>
<th>Patient Seated, Wearing Gown</th>
<th>Sample Verbalization or Instructions **</th>
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<tr>
<td><strong>Introduce Self; Wash Hands</strong></td>
<td>&quot;I am inspecting for general state of health, signs of distress, etc....&quot;</td>
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**VITAL SIGNS**
- Height
- Weight
- Temperature
- Radial pulse
  - (Apical pulse, if radial pulse questionable)
- Respiration
- Blood Pressure

**SKIN**
1. Inspect color, lesions for location, distribution, grouping, type and color
   - "I am checking skin for color, lesions for location, size...." 
2. Palpate:
   - Turgor
   - Texture
   - Temperature
   - "Skin turgor and texture are normal (as you check it), skin is warm & dry...."
108 ORIGINAL VIDEOS

Faculty shared review of standard exam and specialized exam videos
Developed, modified and finalized scripts for videos after multiple reviews
Large binder compiled of all final scripts
Faculty and graduating students assisted to act as providers and patients
MWU Media Resources department assisted with the recording, editing and finalization

Videos placed on Canvas Learning Management site and remain available for reference during 1st, 2nd and 3rd years of PA program

Timeline: Updates began January 2018, videos finalized in August 2018 for course start, videos to be updated each year with minor changes based on feedback
SMALL GROUP LABS
SAMPLE OF STANDARDIZED CHECKLISTS

Physical Examination Grading Checklist – Midterm 2019

Student Name: ____________________________ Date: ____________________________

Midterm (CN testing and inspection requires ventilation)

**General**
- **Check** hearing (CN VIII)
- **Inspect** red reflex with ventilation
- **Inspect** corneal reflex with ventilation
- **Test** pupillary light reflex with ventilation
- **Test** consensual pupillary light reflex with ventilation
- **Test** extrinsic movements
- **Look** near for vision accommodation
- **Do** an **fundoscopic** exam (verify lights dim, start turn of lights for video)

**Ears and Nose**
- **Check** hearing (CN VIII)
- **Inspect** external ear with ventilation

**Palpate** external ear

**Check** exam with **oral** of EAC

**Check** exam with **oral** of TM

**Inspect** external nose with ventilation

**Test** nasal patency bilaterally

**Palpate** external nose

**Nasal** speculum exam with **oral**

**Total** (need 79)

**Mouth and Oropharynx**
- **Check** inspection requires light source
- **Inspect** lips, tongue, gums with tongue-vp
- **Inspect** mucosa, tonsils with **oral**
- **Inspect** posterior pharynx with tongue blade
- **Inspect** salivary ducts (Virchow, Stenson)
- **Ask** patient to say "Aah" (CN IX, X)
- **Test** tongue protrusion side-to-side
- **Inspect** lateral margin of tongue with gauze

**Palpate** oral cavity (glossy, binasal)

**Total** (need 66)

**Head**
- **Verify** inspection of facial features

**Inspect** hair, scalp, skull

**Palpate** facial bones, ind. sinuses

**Palpate** TMJ and test ROM

**Palpate** masseter muscles (CN V, motor)

**Test** to light touch or pain (CN V, a, s)

**Test** for facial muscle function (CN VII)

**Total** (need 91/11)

**Neck**
- **Inspect** neck, with ventilation
- **Ask** patient to perform neck ROM

**Check** lateral neck rotation against resistance

**Check** shoulder shrug against resist. (CN XI)

**Palpate** cervical nerve nodes with **oral**

**Assess** carotids bilaterally

**Palpate** carotid arteries bilaterally

**Palpate** tracheal position (from front)

**Palpate** hyoid gland (from front or back) with pt swallowing

**Total** (need 79)

**Upper Extremities**
- **Inspect UE with ventilation**

**Palpate** shoulders & upper arm with **oral** landmarks

**Total** (need 91/11)

PA Physical Examination Grading Checklist – Final Exam 2019

Student Name: ____________________________ Date: ____________________________

**General**
- **Palpate** for spleen with inspiration in LUQ
- **Palpate** for kidneys
- **Palpate** abdominal for size
- **Inspect** visualization of inguinal lymph nodes, femoral pulses, and for hernias

**Total** (need 137/4)

**Lower Extremities**
- **Inspect** hib & legs with ventilation
- **Palpate** hips with **oral** landmarks
- **Palpate** upper leg with **oral** landmarks
- **Inspect** popliteal fossa (for pulse, aneurysm, cyst and lymphadenopathy)
- **Palpate** knee landmarks including joint line
- **Palpate** lower leg with **oral** landmarks
- **Palpate** ankle with **oral** landmarks
- **Palpate** foot with **oral** landmarks
- **Palpate** posterior tibial pulse
- **Palpate** dorsalis pedis pulse
- **Check** capillary refl.
- **Check** hip ROM (flexion, abduction, adduction, internal & external rotation)
- **Check** ROM of knee (flexion & extension)

**Patient Sitting**
- **Check** strength of hip (adduction, abduction, & flexion)
- **Strength test knee flexion & extension**
- **Check** ankle ROM (dorsiflexion, planter flexion, inversion & eversion)
- **Strength test ankle (dorsiflexion, plantar flexion, internal & external rotation)**
- **Check** ROM of toes flexion and extension
- **Palpate** LFT for edema

**Total** (need 151/6)

**Back**
- **Inspect** standing, back to clinician:
- **Inspect** spine with ventilation
- **Palpate** spine
- **Inspect** for signs of curvature while hunched
SIMULATION PRACTICAL ASSESSMENT

Midterm and Final Practical Exam
- Performed on Standardized Patient
- Student given 30 minutes

- **Midterm:** Vitals, General Inspection, Skin, HEENT, Upper Extremities, Pulmonary Chest
- **Final:** Vitals, General Inspection, Skin, Cardiovascular, Abdominal, Spine/Lower Extremities, Neurological

- Specialized tests assessed- purpose and technique

*Male and female wellness exam skills not assessed during practical exam*
LET'S TAKE A CLOSER LOOK AT GENERAL ASSESSMENT
### I. General Inspection; Vital Signs and Skin

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**INSPECT:** General state of health, signs of distress, facial expression, stature, build, posture, sexual development, grooming and hygiene, speech, mobility, mental alertness.

**VITAL SIGNS**
- Height
- Weight
- Temperature
- Radial pulse
  - (Apical pulse, if radial pulse questionable)
- Respirations
  - “Respirations are ___ per minute and unlabored. No retractions are noted.”
- Blood pressure

**SKIN**
1. Inspect: color, lesions for location, distribution, grouping, type and color
   - “I am checking skin for color, lesions for location, size…..”
2. Palpate:
   - Turgor
   - Texture
   - Temperature
   - “Skin turgor and texture are normal (as you check it); skin is warm & dry…..”
CHECKLIST

General (pt seated on exam table)
- Introduce him/herself to patient
- Confirm name and DOB
- Wash hands before examining pt
- Verbalize a general assessment
- Note height, weight, and temp.
- Take pulse, resp. rate: report findings
- Take BP: report findings
- Inspect skin, with verbalization
- Remove socks for inspection
- Palpate skin (texture, temp)
- Palpate skin (turgor)

Total (need 9/11)
SPECIALIZED EXAMS

Useful supplement for complex content
Apprehension and Relocation

Assist the patient by abduction the shoulder to 90 degrees while maintaining 90 degrees at the elbow. Slowly externally rotate at the shoulder while assessing for pain/apprehension. Pain should be relieved with internal rotation. Positive test would be pain present with external rotation and relieved with internal rotation suggestive of glenohumeral instability (i.e. previous shoulder dislocation or chronic laxity).
Specialized Tests Selected:

1. __________________________________________
2. __________________________________________
3. __________________________________________
4. __________________________________________

Comments: __________________________________________

Specialized Tests Require:

1. Perform correct technique
2. Describe indications and explain purpose of test

*1 point is provided for each component
COURSE PROFESSIONALISM

Professionalism is a requirement of the course. Up to 10% of the final course grade may be deducted for breach of professionalism as determined by the course coordinators. Fundamental aspects of professionalism include preparedness, punctuality and respectful behavior to classmates, standardized patients, and faculty. It is expected that students will arrive to Physical Diagnosis Labs on time, use allotted time effectively, and come prepared on the week’s lecture and video content. Weekly video content (both core videos and specialized exams) should be reviewed by students prior to lab session. A component of professionalism is respecting standardized patients and their modesty. Please offer a drape during practical exams. Failure to do so may result in deduction of course grade. Potential course grade reduction will be determined by group leaders, course coordinators, and exam proctors. Lectures and videos are not to be disseminated outside of the course and are for student use only. Unprofessional behavior may also result in a course failure or disciplinary action to be determined by course coordinators.
LESSONS LEARNED

- Time consuming
- In-depth preparation
- Faculty buy-in for development
- Consistent techniques determined by faculty
- Usefulness of student involvement


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