In groups of 2...

• Use the chart on your worksheet

  • In the left column, identify 3 additional pieces of information that you would like to know about your patient.
  • In the right column, indicate what you need to do to get each piece of additional information.
<table>
<thead>
<tr>
<th>Information you want…</th>
<th>How you’ll get it…</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ATs are least confident in recognizing non-orthopedic conditions.  Morin (2014)
<table>
<thead>
<tr>
<th>TITLE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury and Illness Prevention and Wellness Promotion</td>
<td>Promoting healthy lifestyle behaviors with effective education and communication to enhance wellness and minimize the risk of injury and illness</td>
</tr>
<tr>
<td>Examination, Assessment and Diagnosis</td>
<td>Implementing systematic, evidence-based examinations and assessments to formulate valid clinical diagnoses and determine patients’ plan of care</td>
</tr>
<tr>
<td>Therapeutic Intervention</td>
<td>Rehabilitating and reconditioning injuries, illnesses and general medical conditions with the goal of achieving optimal activity level based on core concepts (i.e., knowledge and skillsets fundamental to all aspects of therapeutic interventions) using the applications of therapeutic exercise, modality devices and manual techniques</td>
</tr>
</tbody>
</table>
Risk
increase in training
increase in risk of URTI

10%
Travel

Distance: across 4 time zones → 2-3 times increased risk of illness

Destination: region specific illness

Tuberculosis, estimated new cases, 2010

Estimated new cases (per 100,000 population)
- <100
- 100–300
- >300

Schwellnus M (2016)
NON-EXERCISE STRESSORS

Lack of sleep
Psychological stress
AMERICANS’ HAND HYGIENE HABITS

A majority of Americans are getting caught dirty-handed when it comes to their handwashing habits. A survey by SCA, a global hygiene company, uncovered that consumers understand the importance of hand hygiene but their practices may be grossly exaggerated.

- 58% have witnessed others leaving a public restroom without washing their hands.
- 20% of witnessed restaurant employees.
- 35% witnessed with co-workers.
- 33% witnessed with friends.
- 57% say they practice good hand hygiene and wash their hands regularly.

More than half do not wash their hands after riding public transportation, after using shared exercise equipment or handling money.

39% do not wash their hands after sneezing, coughing or after blowing their nose.

On average, you come in contact with 300 surfaces every 30 minutes, exposing you to 820,000 germs.

On behalf of SCA, IRRC Research conducted 1,000 online interviews among a nationally representative sample of adults in the U.S. from October 4 to October 7, 2012.
Prevalence
• 6-17% likely to be affected by illness in international games/competitions (Schwellnus, 2016)
  • 17.4% of all athletes (n = 547) at 2014 Paralympic Games (Derman, 2016)
  • 4% of all athletes (n = 899) at 2015 Winter European Youth Olympic Festival (Ruedl, 2016)
• BU: 18,484 patient encounters over 23 months
  • 34% non-orthopedic
• 50% of all acute illness in athletes during competition affect respiratory tract (Schwellnus, 2016)
  
  • Others commonly affected: gastrointestinal, dermatologic, genitourinary systems
Why we need to be good at this

- Patient centeredness
- Identifying urgent/emergent conditions
- Reducing need for referral, multiple appts

- 110 million physician visits, 23.2 million physician phone calls, 6 million ER visits for people with non-influenza viral respiratory tract infection ($40 billion in health care-related costs) (Fendrick, 2003)

- Big picture view: 110 million PCP visits, 6 million ER visits = $7.7 billion in healthcare costs (over $10 billion in 2017)
  - Microcosm view: fewer appointments with supervising physician, student health, etc.

- So...patient care expedited. Perhaps reduce time lost.

- Our goal is to allow safe participation in physical activity...so, we need to identify the condition, appropriately treat it, and then determine the participation status of the patient
Group Activity 2: What is in your differential?

Examples:
Process

Prepare for the encounter
History of present condition
Physical examination
Decision making tools
Diagnostic testing
Plan of care
Patient education
Additional communication
Prepare for patient encounter

• Standard precautions
  • Hand hygiene
  • Personal protective equipment

• Need for isolation?
Two Methods for Hand Hygiene: Alcohol-Based Hand Sanitizer vs. Washing with Soap and Water

- Alcohol-based hand sanitizers are the most effective products for reducing the number of germs on the hands of healthcare providers. Antiseptic soaps and detergents are the next most effective and non-antimicrobial soaps are the least effective.
- When hands are not visibly dirty, alcohol-based hand sanitizers are the preferred method for cleaning your hands in the healthcare setting.
- Soap and water are recommended for cleaning visibly dirty hands

During Routine Patient Care:

<table>
<thead>
<tr>
<th>Wash with soap and water</th>
<th>Use an Alcohol-Based Hand Sanitizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>• When hands are visibly dirty</td>
<td>• For everything else</td>
</tr>
<tr>
<td>• After known or suspected exposure to <em>Clostridium difficile</em> if your facility is experiencing an outbreak or higher endemic rates</td>
<td></td>
</tr>
<tr>
<td>• After known or suspected exposure to patients with infectious diarrhea during <em>norovirus</em> outbreaks</td>
<td></td>
</tr>
<tr>
<td>• If exposure to <em>Bacillus anthracis</em> is suspected or proven</td>
<td></td>
</tr>
<tr>
<td>• Before eating</td>
<td></td>
</tr>
<tr>
<td>• After using a restroom</td>
<td></td>
</tr>
</tbody>
</table>
Techniques for Using Alcohol-Based Hand Sanitizer

When using alcohol-based hand sanitizer:

- Put product on hands and rub hands together
- Cover all surfaces until hands feel dry
- This should take around 20 seconds

Techniques for Washing Hands with Soap and Water

- The CDC Guideline for Hand Hygiene in Healthcare Settings recommends:
  - When cleaning your hands with soap and water, wet your hands first with water, apply the amount of product recommended by the manufacturer to your hands, and rub your hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers.
  - Rinse your hands with water and use disposable towels to dry. Use towel to turn off the faucet.
  - Avoid using hot water, to prevent drying of skin.
- Other entities have recommended that cleaning your hands with soap and water should take around 20 seconds.
- Either time is acceptable. The focus should be on cleaning your hands at the right times.
Personal Protective Equipment
Glove Use

When and How to Wear Gloves

- Wearing gloves is not a substitute for hand hygiene. Dirty gloves can soil hands.
- Always clean your hands after removing gloves.
- Steps for Glove Use:
  1. Choose the right size and type of gloves for the task
  2. Put on gloves before touching a patient’s non-intact skin, open wounds or mucous membranes, such as the mouth, nose, and eyes
  3. Change gloves during patient care if the hands will move from a contaminated body-site (e.g., perineal area) to a clean body-site (e.g., face)
  4. Remove gloves after contact with a patient and/or the surrounding environment (including medical equipment) using proper technique to prevent hand contamination
     - Failure to remove gloves after caring for a patient may lead to the spread of potentially deadly germs from one patient to another
  5. Do not wear the same pair of gloves for the care of more than one patient
History of present condition

• Review of systems
  • Problem Pertinent
  • Extended
  • Complete
SUBJECTIVE

Onset of respiratory symptoms: MON 11/28/2016   Today
If onset of symptoms is greater (> ) than 2 weeks; consider bacterial infection

Recent travel history (please assess for disease risk based on recent travel): 

Sore Throat
+ sore throat; + current fever or chills; + swollen or painful neck glands.

Cough
+ cough; + difficulty breathing/shortness of breath; + current fever or chills. No dark colored phlegm, No wheezing, and No chest pain.

Nasal Symptoms
+ runny nose; + nasal congestion; + headache. No pain in ONLY ONE side sinus area and No pain in upper teeth.

Other symptoms
+ ear pain or hearing loss
+ severe lack of energy
+ nausea or vomiting
+ have you recently been exposed to any illnesses

Do you have a history of
+ mono
+ asthma, with or without exercise
+ sinus surgery
+ pneumonia
+ hayfever or allergic rhinitis
+ any other chronic disease or condition (i.e. diabetes)

Medications
Reviewed by Andrew Duckett, on 12/20/2016 5:33 PM
TEST MEDICATION ▲ (Free Text); 22MG

Allergies
Reviewed by Andrew Duckett, on 12/20/2016 5:33 PM
AMoxicillin (Difficulty Breathing|Hives|Rash)
NUTS ▲ (Free Text)
PENICILLIN ▲ (Free Text) (Hives)

Problem List/History
Gen:

- [ ] in no acute distress

Skin:  

Ears:

- [ ] TMs clear
- [ ] tm erythema
- [ ] tm bulge
- [ ] canal erythema
- [ ] canal edema

Nose:

- [ ] clear
- [ ] pus
- [ ] septal deviation
- [ ] edema

Oropharynx:

- [ ] clear
- [ ] pharyngeal erythema
- [ ] tonsillar enlargement
- [ ] tonsillar exudate

- [ ] cervical lymphadenopathy
- [ ] tender adenopathy
Cardiac:  □ regular rate and rhythm without murmur
< Enter text here >

Lungs:  □ clear
□ = crackles
□ = wheezes
□ = rhonchi
□ = decreased breath sounds
< Enter text here >

Abdomen:  
< Enter text here >

**Strep Prediction** *(required)*

<table>
<thead>
<tr>
<th>Symptoms/Findings</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>Yes (+1)</td>
</tr>
<tr>
<td>Absence of cough</td>
<td>Yes (+1)</td>
</tr>
<tr>
<td>Tender anterior cervical adenopathy</td>
<td>No (0)</td>
</tr>
<tr>
<td>Tonsillar swelling or exudates</td>
<td>Positive LR for exudate Yes (+1)</td>
</tr>
<tr>
<td>Age: 15–45</td>
<td>0</td>
</tr>
<tr>
<td>Total Score</td>
<td>3</td>
</tr>
</tbody>
</table>

Strep testing ordered based on score above.

**Scoring:** -1 or 0 points: streptococcal infection ruled out (2 percent)
2 to 3 points: order rapid test and treat accordingly
4 to 5 points: chance of streptococcal infection is 52 percent, may consider empiric antibiotics.

**Reference:** Pharyngitis
Miriam T. Vincent, M.D., M.S., Nadhia Celestin, M.D., and Aneela N. Hussain, M.D.
Am Fam Physician. 2004 Mar 15;69(6):1465-70
History of present condition
Other History

• Past medical history
• Allergies
• Medications
• Habits (alcohol, smoking, recreational drugs)
• Family history
• Social history (occupation, family, military)
Your turn
History of Present Illness

**Onset of symptoms:** 1/3/17  **LMP:** 12/20/16
+sore throat,
+fever/chills
+ear pain/hearing loss
+swollen/painful glands
+nasal congestion
+cough
+dark phlegm production
+shortness of breath with exercise
+wheeze/chest pain
+severe lack of energy
+nausea/vomiting
+recent exposure to known illness
+urinary/reproductive symptoms

**Medication:**
Benadryl
Valcyclovir

**Allergies:**
NKDA
Physical exam

• HR, BP, temp, respiration, oxygen saturation
• HEENT
• Lymph nodes
• Lung sounds
• Abdominal exam
  • Inspection, Auscultation, percussion, palpation (superficial and deep)
Physical exam

- HR, BP, temp, respiration, oxygen saturation
Your turn
<table>
<thead>
<tr>
<th>Vitals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blood Pressure:</strong> 126/84mmHg sitting, right arm</td>
</tr>
<tr>
<td><strong>Temperature:</strong> 97.4 degrees F</td>
</tr>
<tr>
<td><strong>Pulse:</strong> 78 beats per minute, normal rate, rhythm</td>
</tr>
<tr>
<td><strong>Respiration:</strong> 14 breaths per minute</td>
</tr>
<tr>
<td><strong>SpO2%:</strong> 98%</td>
</tr>
</tbody>
</table>
• H: palpate sinuses; lymph nodes
• E: examine sclera; pupil size, conjunctiva,
• E: palpate pinna, tragus; examine auditory canal; examine tympanic membrane
• N: examine septum; discharge?
• T: tonsils, back of throat, tongue, uvula
Your turn

Otoscope use

1. Palpate tragus
2. Traction to auricle, lobule
3. Largest possible speculum
4. Patient seated, head down and away
5. Pull pinna up and out (post. hand)
6. Stabilize ant. hand on face
7. Hold close to scope (think lever arm)
8. Watch way into canal slowly
Lung sounds
Your turn
Abdominal Exam
Your turn
Review of Systems

General Appearance
No acute distress

Skin
Unremarkable

Eyes
Normal conjunctiva
PEARLA

Ears
-tympanic membrane erythema
-tympanic membrane bulge
+canal erythema
-canal edema

Nose
-discharge
-septal deviation
-edema

Review of Systems

Oropharynx
+pharyngeal erythema
+tonsillar enlargement
+tonsillar exudate
+cervical lymphadenopathy
+tender adenopathy

Lungs
-rhonchi
-crackles
-wheeze
-decreased breath sounds

Cardiac
Regular Rate and Rhythm without murmur

Thorax/Abdomen
Soft and supple no pain with palpation
No distention with palpation of abdomen
What we know...

• Vitals – good
• History of present condition: pharyngitis, reported fever, reported chills, ear pain, swollen painful glands, nasal congestion, headache.
• Other history: Benadryl, valcyclovir; gymnast; biology major
• PE: auditory canal erythema; oropharangeal erythema; tonsilar enlargement and exudate; tender cervical lymphadenopathy
Decision making tools

• Centor score
• Wells DVT/PE
Our patient

<table>
<thead>
<tr>
<th>Symptoms/Findings</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>No (0)</td>
</tr>
<tr>
<td>Absence of cough</td>
<td>Yes (+1)</td>
</tr>
<tr>
<td>Tender anterior cervical adenopathy Positive LR</td>
<td>Yes (+1)</td>
</tr>
<tr>
<td>Tonsillar swelling or exudates Positive LR for exudate</td>
<td>Yes (+1)</td>
</tr>
<tr>
<td>Age</td>
<td>15-45 (0)</td>
</tr>
<tr>
<td><strong>Total Score</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

Strep testing ordered based on score above.

**Scoring:**
- 1 or 0 points: streptococcal infection ruled out (2 percent)
- 2 to 3 points: order rapid test and treat accordingly
- 4 to 5 points: chance of streptococcal infection is 52 percent, may consider empiric antibiotics.

**Reference:** Pharyngitis
Miriam T. Vincent, M.D., M.S., Nadhia Celestin, M.D., and Aneela N. Hussain, M.D.
Am Fam Physician. 2004 Mar 15;69(6):1465-70
Diagnostic testing

- Rapid strep
- Throat culture
- CBC
- Mono spot vs EBV
- Flu swab
- Chest x-ray
- Other indicated lab work...
Results of diagnostics

• Positive rapid strep
• Diagnosis: strep A pharyngitis
Plan of care

Referral required?

YES: Refer; no participation.

NO: Patient goal is to participate.

Fever? (100.4)

YES: No participation.

NO: Hydrated, tolerating fluids, food?

YES: Tolerate 20 minutes of moderate CV activity?

YES: Ok to participate.

NO: No participation.

NO: No participation.
Patient education

- Home care
- Medication information
- Follow up plan
Additional communication

- Caregiver
- Physician or other HCP
- Department of Public Health
- Coach
Break
Cases
Board of Certification. Role Delineation Study/Practice Analysis. 6th Edition.


