WELCOME TO SPRING ICM!

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Purpose Of The Physical Exam

• **Screening** for occult disease, assure **good health**, develop **relationship** w/patient

• Identify **cause** of **symptoms**, **guide** use of adjuvant **testing**

• Follow **known disease**, assist in adjusting treatment

• Part of **mystique & magic** of medicine – power of touch & observation

• ***Exam inextricably linked to the History***
Course Goals

- Learn **rationale** for each aspect of **exam** (basic anatomy, physiology & pathophysiology)
- Learn appropriate **techniques**
- Learn **correct** use of **exam tools**
- Learn how to **put** everything **together**

**DON’T PANIC!**
This is only the beginning of a long journey
Making The Most Of ICM

• Read, Read, Read!

• Practice, Practice, Practice!
  – Technique - “Do I know how to do the skills?”
  – Completeness - “Do I know all elements of an exam area and the order in which to perform them?”

• Ask, Ask, Ask!

• Wash, Wash, Wash (your hands)!
Format

• Lecture ~ 50 minutes
  – Rationale for exam
  – Anatomy/Physiology
  – Description
  – Demo

• Anatomy lab – Quick demos by faculty→supervised practice

• For some sessions, 1-2 patients w/“findings” will be in the lab

• Please go to assigned session (2:00 and 3:00 starting times alternate) - You’re expected to attend all sessions - contact Anthony Parker if problems

• Please, please, please bring all exam “tools” to each session & remember to charge battery of Oto-Ophthalmoscope!
Evaluation

• Physical Exam Review Sessions - last 2 sessions

• 2 Components
  
In lab w/partner
  – Goal - practice putting entire exam together
  – Perform complete H&P
  – “Patient” uses check list to assess

In PDC GOSCE w/Standardized Patient
  Goal – focused H&P - “real” setting

• Course graded Pass/Fail
Other....

• Separate male & female exam areas for: lung, heart and abdomen
• If not comfortable being examined, let us know
• If any issues, address w/us (sooner better then later)!
Resources

• Bate’s Guide To The Physical Examination and History Taking, Lynn Bickley
• The Art and Science of Bedside Examination, Joseph Sapira
• DeGowin’s Diagnostic Examination, Richard DeGowin
• Textbook of Physical Diagnosis: History and Examination, M Schwartz
  A Practical Guide To Clinical Medicine, Charlie Goldberg and Jan Thompson
• Links to many useful exam/clinical sites: Practical Guide Links Page
A Few Thoughts For The Road..

- Have **fun & be enthusiastic**!
- You will **not master** material after one course – Exam skills develop with **time, practice & clinical experience/exposure**
- Spring **ICM** is a **starting point**, place to begin building solid foundation
- **Repetition** & challenging yourself are key. If extra time→practice prior weeks skills
- Never stop **questioning & thinking**
- This is a **life long endeavor** – more you put in→more you get out!
General Observation, Vital Signs, Upper Extremity & Skin Exams
Become A Data Gathering Machine!

• Exam begins as soon as you see patient:
  – Patient’s Dress (neat, disheveled, work clothing)?
  – Sad, happy, angry, pain?
  – Gait → While walking to office
  – Accompanied? By whom?
  – Carrying things (books, bags, possessions)?
  – While waiting → reading, sleeping, snoring/apnea?
  – Etc…..
Vital Signs

- There’s a reason they’re not called *Casual Signs*!

- Pulse, Blood Pressure, Respiratory Rate, Temperature

- Provide insight into:
  - *Asymptomatic disease* (e.g. hypertension)
  - Degree of *perturbation* caused by *acute* disease (e.g. dehydration)
  - *Compensation* for chronic diseases
Pulse

• **Rate (heart beats/minute):** Generally measure for 15 seconds (get a watch!) x 4 – unless particularly slow or fast (then measure x 60 sec)

• **Regularity** – Normal ➔ metronomic
  Other:
  – Irregularly irregular
  – Regularly irregular

• **Volume** – Subjective sense of “how full” it feels

Rhythm Simulator - SkillStat
Variations In Rhythm and Volume

Regular

Small Volume

Large Volume

Regularly Irregular

Irregularly Irregular

Large Volume

Small Volume
Measuring The Pulse - Anatomy

Can measure at any artery, or over heart – Radial artery is most convenient
Radial Artery Anatomy
Measuring Pulse - Technique

- Find radial artery
- Place index & middle fingers (not thumb) oriented along artery length-wise
- Count number of impulses in 15 seconds – multiply x 4 =s beats/min
- Note also:
  - regularity
  - strength of impulse
Measuring Blood Pressure - Physiology

• Occlude artery (usually brachial) w/cuff that provides variable amount of pressure
• Release pressure slowly – First audible sign of blood flow =s systolic pressure – referred to as Sounds of Korotkoff.
• Value at point when sound of flow disappears =s diastolic pressure.
• Measure in both arms – should be w/in 10 pts.
Clinical Implications

• Hypertension =s chronic dz that promotes:
  – arterial vascular dz (coronary, peripheral, cerebral, retinal)
  – renal dysfxn
  – heart failure
• Rarely causes acute sx → slowly progressive, asymptomatic process. Until target organ becomes dysfunctional
• Normal < 120/80; Pre-HTN 120-139/90-89; HTN > 140/90
• Lower end normal ~ 90/60 – No absolutes.
  – First ? after obtaining low reading → “How do you feel?”
  – Also depends on degree change from usual BP.
Anatomy of Antecubital Fossa and Brachial Artery
BP Cuff (Sphygmomanometer)

- One size doesn’t fit all! If too small → BP artifactually high.
  - Length of bladder must reach 80% around circumference of upper arm
  - Width 40%.
Confounding Environmental Factors

- Patient should rest, seated x 5 minutes (i.e. don’t take after they’ve run into your office), feet flat on floor.
- No stimulants prior, if possible (e.g. coffee, cigarettes, sudafed, etc)
- Remove shirts, sweaters – except loose t-shirts - exam gown is ideal
- Errors in technique can be additive resulting in inappropriately diagnosing pt w/HTN!
Stethoscopes

Various styles of stethoscopes – They all work – the most important part is what goes between ear pieces!
BP Measuring Technique

- Chose correct size cuff
- Place stethoscope in your ears, engage bell.
  ** Review which side is bell & which the diaphragm for your stethoscope **
- Wrap cuff around arm
- Raise arm so brachial artery @ level of heart – arm should be relaxed (can also rest on table)
BP Measuring Technique (cont)

- Place bell over brachial artery area
- Inflate to ~ 160 mmHg
- First consistent sound $\rightarrow$ SBP; Loss of all sound $\rightarrow$ DBP
- Avoid moving arm, scope or cuff (makes extra noise) – also keep talking to a min!
- Mind the Gap (auscultatory gap)! Sounds may fade & disappear briefly (giving false DBP) & then reappear.. Can avoid pitfall by listening for ~ 10 mmHg to assure sound really gone.
Confirming SBP By Palpation

- Position BP cuff on arm
- Palpate radial pulse while inflating cuff with your other hand
- Inflate to ~10 mmHg beyond point when pulse disappears
- Slowly deflate cuff while continuing to palpate – point at which pulse reappears = SBP
Postural (Orthostatic) Vital Signs

• In setting of significant hypovolemia (e.g. blood loss) → pulse ↑ & BP ↓
• Exaggerated when change position from lying to standing (gravity → less venous return)
• Measure BP & HR w/patient lying, sitting, then standing (after waiting 2 minutes for equilibration)
• Suggestive of important hypovolemia if:
  – Pulse increases by 20 and SBP decreases by 20 (not absolute #s), in concert w/symptoms
Measuring Respiratory Rate

- Normal 12-20/min (adults)
- Observe rise & fall of chest while holding wrist & ”measuring” pulse
- Measure x 30 seconds.. If slow or fast, measure x 1 minute
Temperature

- Temperature measured in setting of illness, concern re infection.
- Ear probe v Oral
- Rectal rarely used, though is most accurate
Upper Extremity Exam

- Observation: Nails, fingers, hands, arm
- Capillary refill: push on finger tip or nail bed → time for red color to return < 2-3 sec - marker of perfusion.
Nail Abnormalities – Shape and Color

May give insight into chronic or acute, systemic or local disease

Cyanosis

Nicotine

Clubbing

Onychomycosis
Hand and Arm Abnormalities – Shape, color, deformity

Swelling

Deformity

Discoloration
Upper Extremity Exam (Cont)

• Palpation of any abnormal areas
  – compare side to side if asymmetric
  – ? pain or warmth (suggests inflammation)

• Palpation axillary lymph nodes – enlarged in the setting of:
  – infection/inflammation
  – malignancy (e.g. breast, lymphoma)
Palpation For Epitrochlear and Axillary Nodes

Example: Axillary Adenopathy
Screening Skin Exam

• Skin = s largest organ
• Disease can be primary to skin or manifestation of problem elsewhere
• Common asymptomatic disease =s cancer → epidemic in California
Skin Screening Exam: Basic Principles

• Full exposure → See all skin
• Particular attention → areas max exposure (face, ears, scalp)
• Look for areas that are:
  – Non-healing
  – Growing/changing shape
  – Irregular borders
  – Colored/bleeding
• Palpate for:
  – Size, firmness, depth, pain
Common Skin Cancers

Squamous Cell Cancer

Basal Cell Carcinoma

Melanoma
(http://at-risc.org/)
Summary of Skills

- Wash hands
- General observation of patient
- Measure radial pulse → rate, rhythm, volume
- Measure respiratory rate
- Measure BP → both arms
- Assess for orthostatic changes in pulse & BP
- Inspect hands, arms; palpate for axillary nodes
- Screening skin evaluation

Time Target: < 5 min

Extra Time ?: Measure BP, P, RR after running in place