The History of the Physical Exam: A License to Touch!

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PE:

Vitals: HR: 76  RR: 20  BP: 159/89  O2 sat: 98% RA

General - NAD, sitting up in bed, well groomed and in nightgown

HEENT - PERRLA, EOM intact, large swollen tongue, posterior oropharynx clear

Neck – Supple, No noticeable or palpable swelling, no goiter

Nodes – No LN

Cardiovascular – JVP 8cm, RRR no m/r/g, PMI nod-displaced, no carotid bruits

Lungs – CTA b/l, no use of accessory muscles, no crackles or wheezes.

Breast – firm, but lumpy b/l

Abdomen - Normal bowel sounds, abdomen soft and NT/ND

Genitourinary – not performed since complaints not related.

Rectal – deferred, see above

Extremities - No c/c/e

Musculoskeletal - normal range of motion, no swollen or erythematous joints.

Skin - No rashes: skin warm and dry

Neurological – Alert and oriented x 3, CN 2-12 grossly intact.

Psychiatric – cooperative, normal affect and mood
“...these young doctors, they take such liberties (with their hands), you know my dear”

Sir Arthur Conan Doyle
Evolution of a Ritual

- Egypt, Babylon, India, Persia & China
- Greece, 400 BC
- Rome, 200 AD
- Middle Ages
- 18th Century
- 19th Century
- TODAY

Doctors

BAD!!!

Interrogation of symptoms

- Inspection
- Palpation of pulse
- Body heat

Auscultation (direct)

18th Century

Touch me! Doctor

Modern Maneuvers

Age of Instruments

- Modern Instruments
- Modern Equipment
- Modern Technology
Greece and Rome
The Ancient Exam

1. Elicit account of illness from patient – Interrogate & listen to “the story”
   - All about the symptoms (No Signs!)

2. Appearance - Inspection/Observation
   - Minimal exam – *direct auscultation*
   - Keep your garments on!

3. **Pulse and Body Heat**
   - Disease entities not “vital signs”

4. Apply all senses
   - to secretions and excretions
Aphorisms

• *Primum non nocere*

• If erysipelas of the womb seizes a woman with child, it will probably prove fatal (*PUERPERAL FEVER*)

• When bubbles settle on the surface of urine, they indicate disease of the kidneys and that the complaint will be protracted (*NEPHROSIS*)

• Persons who are naturally fat are apt to die earlier than those who are slender (*SYNDROME X*)

• Drinking strong wine cures hunger (*GLUCOSE*)

• Eunuchs do not take the gout nor become bald (*STEROIDS*).

• Sleep and watchfulness, both of them when immoderate, constitute disease. (*BIPOLAR*)

• If you wish to stop the menses in a woman, apply as large a cupping instrument as possible to the breasts (*???)
Early Christianity

Hippocrates

~200 AD

Galen

The Four Humours (fluids) of Ancient Greece and their relationship with the Four Elements, the Four Temperaments, the Four Personalities, the Four Organs, and the Four Seasons.
Middle Ages
“... the answer is in the sewer”

Examing the **Golden** Trickle
14th and 15th Century

Physician

Barber-Surgeon
Andrea Vesalius, 1543

“De Humani Corporis Fabrica”
Nosology of Disease

17th Century

1. Diseases classified into species (like plants)
2. Described objectively (not philosophically)
3. Constant manifestations across patients
4. Seasons when disease occur documented
Pulse and Temperature

• **Pulse** recognized since antiquity
  • Galen describes use as a sign of “imbalance” (variations in rhythm and strength)
  • 1600s first record of *timing* the pulse with a clock
  • 1770s description of pulse rate in disease (DM, thyrotoxicosis)
  • 20th century first used as a “vital sign”

• **Fever** considered a disease entity, not a sign
  • *Body Heat*, likely due to environment
  • Farenheit and Boehaave (~1700) invent the first usable thermometer
  • Thermometer not used in medicine until mid 18th century
  • Recorded routinely late 19th century
18th Century
18th Century Tools
The Hospital
Giovanni Batiste Morgagni

“On the Sites and Origins of Disease”

1761
Middle of the 18th Century

Vesalius

SYDENHAM

AM

VALSALVA

Morgagni
"I here present the reader with a new sign, which I have discovered for detecting diseases of the chest. This consists in percussion of the human thorax, whereby according to the character of the particular sounds thence elicited, an opinion is formed of the internal state of the cavity."

Dr. Leopold Auenbrugger, 1761

“Clinical observation, though never blind, had been deaf”
19th Century

+ = TRUST
"I was consulted in 1816 by a young woman who presented with symptoms of disease of the heart...I took a quire of paper which I rolled together as closely as possible, and applied one end to the precordial region; by placing my ear at the other end, I was agreeably surprised at hearing the pulsation of the heart much more clearly and distinctly that I had ever been able to do by the immediate application of the ear."

Dr. Renee J.T. Laennec, 1821 “Mediate Auscultation”
The Stethoscope

“Here is *looking* at your *chest*”

1820s ——> 1850s
R. Laennec & Auscultation

Breath Sounds

- **Vesicular** (a.k.a. Alveolar):
- **Tubular** (a.k.a. Bronchial or Tracheal)
- **Râles**: a rattling sound (fr); “death rattle” of TB
  - Hippocrates (‘sound of boiling vinegar’)
  - Crackles: British translation
- **Ronchi** (Gr, snoring) for TB patients ONLY!
- **Amphoric Breathing**: pathognomonic for TB
- **Pleural Rub** (in TB)
- **Auscultatory Percussion** (Scratching)
- **Egophony**: E → A or E → goat-like sound
  - ‘a quavering and jerky sound, like the bleating of a goat’
Austin Flint
(1812-1886)

- Influenced by his teacher at Harvard, James Jackson (MGH founder), a follower of Laënnec.
- Coined broncho-vesicular breathing
- Founded 4 medical schools

William Stokes
(1804-1878)

- First English book on the use of the Stethoscope
- Leader of the Dublin Diagnostic Exam movement
“It is high time to strip the stethoscope of the extravagant pretensions thrust upon it”

Thomas Addison, 1846
The Pleximeter

Pierre A Piorry
(1794-1879)
The Age of Instruments

- **1850** - first ophthalmoscope
- **1871** - human normal temperature and temperature in diseases (patterns) described.
  - 3rd vital sign (pulse and respirations already timed)
- **1875** - first description of use of reflex hammer (previously used for percussion)
- **1896** - Riva-Rocci invents the usable (cuff) sphygmomanometer.
  - 4th vital sign is added (brought to U.S. by Cushing)
The Vital Signs Record

Harvey W. Cushing (1869-1939)

House Officers, 1896

Ether Chart, 1896
The White Coat

THE WHITE COAT HIERARCHY OF PERCEIVED IMPORTANCE

ATTENDING  RESIDENT  PHYSICAL THERAPIST  PHARMACIST  LAB TECH  MED STUDENT

MORE IMPORTANT  LESS IMPORTANT
Prestige

L. Pasteur

R. Koch
Asepsis
End of 19th Century Exam

- History (*Martinet*, 1827): CC, HPI, PMH, SH
- Physical Exam: *(modesty aside)*
  - Appearance, Pulse, Temperature, BP
  - Organ based (Brain, Chest and Abdomen)
    - Inspection
    - Palpation
    - Percussion
    - Auscultation
  - Skin, Muscles, “Nerves” and Joints
“Turn of the Century”
20th, that is!

“...doctors have lost the ability to care for patients. Lacking in skills, they rely on their stethoscopes...”

Antebellum Era, Harvard Faculty
Return to Visual Inspection

* eventual abandonment of the exam

- **1880s** - Microscopy
- **1895** – W. Rontgen
  - “A new kind of rays”
  - (now we can see it all)
- **1900s** – W. Einthoven
  - Electrocardiography
- **Later 20th Century**
  - Spirometry
  - Ultrasound
  - PET-scan
A Plea for Bedside Exams

W. Osler
To-day
To cure sometimes, to relieve often, to comfort always.“

Nobel Laureate
"The Stethoscope Song"

... Then out his stethoscope he took,
And on it placed his curious ear;
_Mon Dieu!_ said he, with a knowing look,
Why, here is a sound that's mighty queer.

... Now use your ears, all you that can,
But don't forget to mind your eyes,
Or you may be cheated, like this young man,
By a couple of silly, abnormal flies.

_Oliver Wendell Holmes, 1846_
H&P Admission Orders

Boston, 1823

Massachusetts General Hospital.

I have examined this case, and find the patient to be afflicted with
and that he is a proper patient for the Hospital.

ACTING PHYSICIAN,
ACTING SURGEON

To the Visiting Committee,
M. G. Hospital

Massachusetts General Hospital.

BOSTON, No. 10 — 1823.

is admitted a patient

of

an obligation for

board, &c.

Dollars.

To the Superintendent.

Massachusetts General Hospital.

BOSTON, 28th January, 1823.

I have examined this case, and find the patient to be afflicted with
and that he is a proper patient for the Hospital.

ACTING PHYSICIAN,
ACTING SURGEON

To the Visiting Committee,
M. G. Hospital