

Introduction to the Cardio Vascular Physical Examination

POM CVK 2K Part 1
Sect. 2 Auscultation -
Normal and Normal Variant
Heart Sounds



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Introduction to the Cardio Vascular Physical Examination

POM CVX 2K Part 1
UTMB



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ACTIVITY
WALK RUN
BPM 12



6.0 —
4.0 —

5

1.0 —

Rest



Stroke Volume

Stroke

Stroke Volume

Death



Normal
Tingling
Weakness

Sedentary

Aerobic Athlete



Cardiovascular Sound Classification

I - Heart Sounds - Brief events produced by sudden deceleration of blood

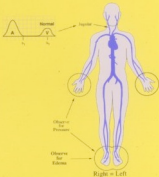


II - Murmurs, Bruits, etc. - longer more complex events produced by velocity of blood flows



III - Miscellaneous Sounds - rubs, crunches, etc. produced by various phenomena

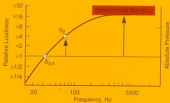
Venous Pulse/Pressure



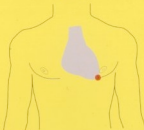
Position for Cardiac Auscultation



Perceived Intensities



Principle Areas of Cardiac Impulses, normal



"Inching" for best sound



First and Second Heart Sounds vs Carotid Pulse

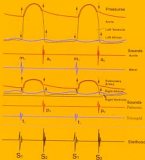


Diagram of S_1 and S_2

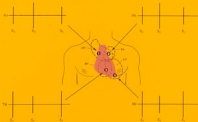
Ao, etc. 



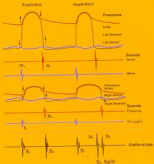
Usual Normal Heart Sounds



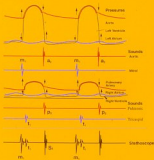
Normal Heart Sounds



Normal Respiratory Splitting of S_2



Split S₁ in Normal



Normal Variant Cardiovascular Sounds



Split S_1



Respiratory Split, S_2



Third Heart Sound



Innocent Murmur

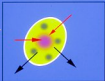
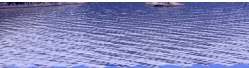
Contours of Precordial Ventricular Impulses



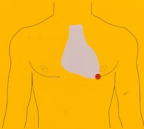
Sustained impulse with palpable S₂ and S₃



Bifid impulse of HCM with S₃
("triple ripple")



Principle Areas of Cardiac Impulses, normal



Carotid Pulse



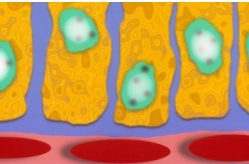
Pattern of carotid (weak and slow) pulse of aortic stenosis or other outflow obstruction



Aortic pulse

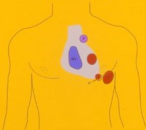
Location of carotid pulses







Principle Areas of Cardiac Impulses, normal & abnormal



Cardio Vascular Disease & Death in the U.S. (AHA-1996)



Morbidity
(Doctor Visits/
Total U.S. Population)



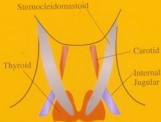
Mortality

Profile and Location of jugular pulses

Jugular Venous Pulses



Location of carotid jugular pulses and thyroid



Body Mass Index BMI

Weight, kg
158 = 0.454 kg

Weight, m
1m = .0254m

$$\text{BMI} = \frac{\text{Weight}}{(\text{Height, m})^2}$$



18.5 to 24.9

Normal



25.0 to 29.9

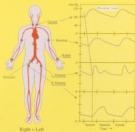
Overweight



30 kg/m²

Obese

Peripheral Pulses with Stenosis, Unilateral



Profile and Location of jugular pulses

Jugular Venous Pulses



Stensen's duct

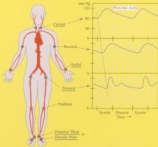


Goals of Observation

To detect signs of:

- Genetic disease with C.V. involvement
- Acquired disease with C.V. involvement
- Habits and life styles conducive to C.V. disease
- Existing C.V. disease

Arterial Pulse



Arteries in Left

Vital Signs

Measurement of critical physiological parameters
(Express the quantity in the appropriate unit.)

T-P-R

- Temperature (degrees Celsius, °C)
- Pulse
 - Rate (beats per minute, BPM)
 - Rhythm (describe)
- Pressure, arterial
 - Systolic/diastolic (mmHg)
- Respiration
 - Rate (respirations per minute, rpm)
 - Rhythm (describe)

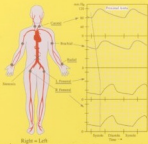
Phase of the Cardiovascular Physical Exam

- General observation
- Vital signs
- Peripheral exam
 - Limbs, head, and neck
- Truncal or central exam
 - Precordium
 - Chest
 - Abdomen

Signs of Circulatory Disturbance

- **Function**
- **Integument**
 - **Color**
 - **Temperature**
 - **Trophic change**
- **Hypersensitivity, pain**
- **Lesions**
- **Pulse and pressure**

Peripheral Pulses with Stenosis



Carotid Pulses



Pulse of aortic stenosis or other aortic obstruction



Bifid pulse

Location of carotid pulses



Principle Areas of Cardiac Impulses, normal & abnormal

