HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Nursing		
Document:	Internal Policy and Procedure		
Title:	Measurement of Pulse		
Applies To:	All Nursing Staff		
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1. PURPOSE:

1.1 To establish procedural guidelines for measurement of pulse.
1.2 To ensure high quality of nursing practice.
1.3 To enable the nurse to function in a consistent and standardized matter.

2. DEFINITONS:

2.1 **Pulse** is the rhythmic expansion and recoil of elastic artery caused by the ejection of blood from the ventricle. It can be palpated where an artery near the body surface can be pressed against firm substance.

3. POLICY:

3.1 The routine interval for taking pulse is every 6 hours. For a patient at risk in pulse alterations, taking pule should be every 2 hours or as ordered by the physician.
3.2 The pulse rates are counted for at least 30 seconds and multiplied by two. If any abnormality is suspected, pulse rate should be assessed in one full minute. Apical Radial Pulse is counted simultaneously in one full minute.
3.3 Selection of pulse site is important for accurate reading. Check and monitor pulse site to an affected extremity to monitor for arterial flow or insufficiency.
- 3.3.1 Temporal pulse - palpated directly in front of the ear (tragus) with the index finger.
- 3.3.2 Carotid pulse – commonly used during CPR in adult. Palpate one side at a time to prevent triggering the vagus nerve, which will decrease the heart rate and circulation to the brain.
  - 3.3.2.1 To find the carotid pulse point, tilt the head to the side and palpate below the jaw line between the trachea and sterno mastoid muscle.
- 3.3.3 Apical pulse – site is assessed during the head to toe assessment and before administration of Digoxin. Always count the pulse rate for 1 full minute with stethoscope.
  - 3.3.3.1 The apical pulse is the point of maximal impulse and is found at the apex of the heart. It is located on the left side of the chest at the 5th Intercostal space midclavicular line.
- 3.3.4 Brachial pulse – Site is used to measure blood pressure and as pulse check site on an infant during CPR.
  - 3.3..4.1 To find the pulse point, extend the arm facing upward. The pulse point is found near the top of the cubital fossa, which is triangular area that is in front of the elbow.
- 3.3.5 Radial pulse – It provides circulation to the arm and hand. It is commonly used to count a heart rate in an adult.
  - 3.3.5.1 To find the pulse point, extend the arm out and have the palms facing upward. It is found below the thumb in the wrist area along the radial bone.

3.3.6 Femoral pulse – Major artery found in the groin and provides circulation to the legs. The artery is palpated deeply in the groin below the inguinal ligament between the pubic symphysis and anterior superior iliac crest.

3.3.7 Posterior tibial pulse – Assessed during the head to toe assessment and is particularly important in patients who have peripheral vascular disease or vascular procedure.

3.3.8 Popliteal pulse – The artery is found behind the knee and comes of the femoral artery. It is rather a deep artery like the femoral.

3.3.8.1 To find the artery, the knee should be flexed. It is located near the middle of the popliteal fossa, which is diamond shaped pitted area behind the knee. Use two hands to palpate the artery one hand assisting to flex the knee and the other to palpate the artery.

3.3.9 Dorsalis pedis pulse – To find this artery, locate the EHL (Exterior Hallucis Longus) tendon having the patient extend the big toe. Then palpate down this tendon and when you come to end of it, go to the side of the tendon.

3.4 Use electronic system for documentation in vital signs monitoring form during system shutdown return Use RED ink pen, encircle 80 in the column corresponding to pulse. Plots the result by writing X in the vital chart. This is an acceptable guide in identifying the normal pulse readings. Affix RN initial and Job number at the bottom of each column.

3.5 Pulse measurement shall be repeated by two nurses using alternative sites if it is inaudible (apical) or difficult to obtain.

3.6 The normal range of pulse:

3.6.1 Neonate: 70 - 170 breaths/min

3.6.2 Pediatric: 70 - 130 breaths/min

3.6.3 Adult: 60 - 80 breaths/min

4. PROCEDURE:

4.1 Performs hand hygiene and applies gloves if indicated.

4.2 Assembles the equipment.

4.3 Identify the patient using 2 identifier (Medical Record Number, and 4 (four) names for Saudi or complete name for Non – Saudi).

4.4 Explain the procedure.

4.5 Ask whether the patient has walked, climb stairs or otherwise exerted themselves in the last 20 minutes. If not, can proceed. If the answer is yes, wait 20 min before taking the reading. This will help to prevent false reading.

4.6 Makes sure the patient is relaxed and comfortable.

4.7 Palpates the artery wall with the tips of the index and middle finger except for the Apical pulse (stethoscope is needed). Some recommend avoiding palpation with the thumb, (misinterpreting patient's pulse pulsating in examiners thumb).

4.8 Does not press too hard to avoid obliterating the pulse. Establish whether the wall feels soft and palpable or hard and sclerotic.

4.9 Identifies the qualities or characteristics of the pulse:

4.9.1 What is the pulse rate? If regular counts the rate for 30 seconds and multiply by 2 of 1 full minute if the pulse rate is irregular.

4.9.2 What is the pulse rhythm? Is the pulse regular or irregular.

4.9.3 What is the strength of the pulse? Grades the strength of the pulse and checks the pulse points bilaterally and compares them.

4.9.3.1 Grading of pulse volume / strength:

0: Absent not palpable

1+: Diminished barely palpable

2+: Normal

3+: Full increased strength

4+: Bounding cannot be obliterated

4.10 Assessing apical pulse
- 4.10.1 Removes patient gown to expose sternum and left side of the chest.
- 4.10.2 Locates the Apical Pulse
  - 4.10.2.1 Locate the sternal notch (located between the clavicles, and its literally a notched out of area above the sternum).
  - 4.10.2.2 Goes down slightly with index finger and feels a hump (known as the Angle of Louis).
  - 4.10.2.3 Then slides the finger over the patients left to the midclavicular line (2nd intercostal space).
  - 4.10.2.4 Proceeds downward and count the intercostal spaces until 5th intercostal space is reached.
- 4.10.3 Makes sure stethoscope is clean. Cleans the ear piece and diaphragm of stethoscope with an alcohol swab.
  - 4.10.3.1 Puts the earpiece in ear and warms the diaphragm of the stethoscope in the palm of the hands.
  - 4.10.3.2 Places the diaphragm of stethoscope on left 5th intercostal space, midclavicular, just below the nipple line.
- 4.10.4 Informs the patient that you will listen to his/her heart beat and instructs to remain silent.
- 4.10.5 Listens to the apical pulse and counts the beat for 1 full minute.
  - 4.10.5.1 If having a hard time finding the pulsation, lean the patient over to the left slightly. This will displace the heart closer to the chest wall.
- 4.10.6 Notes for rhythm, rate and strength.

4.11 Measuring the Apical – Radial Pulse
- 4.11.1 If the apical – radial pulse is ordered by the physician, two nurses carry out the procedure together.
- 4.11.2 Using the same watch, one nurse counts the patient's apical pulse for 1 minute while the other counts the radial pulse for 1 minute.
- 4.11.3 One nurse gives the signal to start and stop the counting.
- 4.11.4 Both nurse should start and stop at the same time.
- 4.11.5 2 (two) figures are identified and documented (A-R pulse 76/72) normally, this two readings should be the same. If there is a difference it is called pulse deficit. (Note: Apical pulse will never be lower than the radial pulse).
- 4.11.6 Assist the patient in putting the gown in place.

4.12 Inform patient of the findings

4.13 Remove gloves (if applicable) and disposes it to medical waste bag.

4.14 Performs hand hygiene.

4.15 Cleans and return the equipment to its proper places.

4.16 Records the measurement in vital signs chart.

4.17 Notify the doctor tap any abnormal findings observed.

5. MATERIAL AND EQUIPMENT:

5.1 Stethoscope

5.2 Watch with second hand

5.3 Alcohol swab

6. RESPONSIBILITIES:

6.1 Nurse

7. APPENDICES:

7.1 Vital sign chart

8. REFERENCES:

8.1 Ministry of Health, General Nursing Administration, Functions & Duties, Policies and Procedure.
8.2 www.pedcases.com/pediatrics-vital-signs-reference.chart
8.3 https://my.clevelandclinic.org/health/articles

9. APPROVALS:

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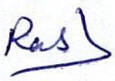
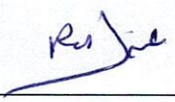
Reviewed by:	Ms. Rasha Anwar	Nursing QM&PS Supervisor		January 15, 2025
Reviewed by:	Mr. Abdulelah Ayed Almutairi	QM&PS Director		January 16, 2025
Approved by:	Mr. Sabah Turayhib Al Harbi	Director of Nursing		January 22, 2025

Appendix 7.1

KINGDOM OF SAUDI ARABIA

وزارة الصحة
Ministry of Health

Hospital: _____ :مستشفى

Region: _____ :المنطقة/المحافظة

Dept./Unit: _____ :القسم/الوحدة

MRN: _____ :رقم الملف الطبي

Name: _____ :الاسم

Nationality: _____ :الجنسية

Age: _____ Years :سنة ____ Months :شهر ____ Days :يوم :العمر

Date of Birth: ____ / ____ / 14____ H ____ / ____ / 20____ :تاريخ الميلاد

Gender: ☐ Male ☐ Female :الجنس

VITAL SIGNS CHART

WEIGHT-kg						
POST-OPERATIVE DAY						
DATE						
TIME						
TEMPERATURE	40					
	39					
	38					
	37					
	36					
	35					
RESPIRATORY RATE						
O2 SATURATION						
BLOOD PRESSURE AND PULSE RATE PULSE = X SYSTOLIC = V DIASTOLIC = ^	240 220 200 180 160 140 120 100 80 60 40 20					
BP						
PAIN SCORE SCALE						
INITIALS AND JOB NUMBER						

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