



Patient Care



Sunnyvale HST



Obtaining Patient Vital Signs

Assess vital signs for every patient, report results outside expected range

	Heart Rate	Resp. Rate	SpO2	Systolic BP	Diastolic BP	Temp
Adult	60-100/min	12-20/min	95-100%	90-120 mmHg	60-90 mmHg	96.4-99.1
Child (6-12)	70-120/min	18-30/min	95-100%	70+(2*age)	N/A	96.4-99.1
Child (1-5)	80-150/min	24-34/min	95-100%	70+(2*age)	N/A	96.4-99.1

Obtaining Patient Vital Signs

- **Adult Heart Rate**
 - May be higher than 100/min with anxiety or distress
 - May be lower than 60/min if patient takes certain medications
 - Reassess abnormal rate manually using radial pulse for 1 min.
- **Adult Blood Pressure**
 - May be greater than 120/80 mm Hg with essential hypertension
 - Reassess abnormal blood pressure manually
 - High blood pressure can increase risk of stroke, pulmonary edema
 - Hypotension (less than 90 mm Hg) can result in loss of consciousness, brain injury, organ failure
 - Monitor patient for symptoms of distress (pallor, diaphoresis, headache, confusion, weakness, nausea)

Obtaining Patient Vital Signs

- SpO2
 - Pulse oximeter unreliable if patient has cold hands, colored nail polish or acrylic nails, edema, or CO poisoning
 - Patients with chronic respiratory ailment may function with SpO2 levels below 95%
 - If SpO2 is abnormally low, assess for signs of adequate perfusion:
 - Warm skin, pink mucous membranes, strong peripheral pulses, or capillary refill less than 2 seconds
 - Patients with hypoxia (low SpO2) may experience anxiety, confusion, or increased respiratory rate
 - Patient may be tachypneic (respiratory rate greater than 20/min) if they are anxious or experiencing respiratory distress
 - Bradypnea (respiratory rate less than 10/min) may be drug side effect
 - Abnormal respiratory rates can result in acid-base imbalance, hypoxia, brain injury, or organ failure

Obtaining Patient Vital Signs

- Temperature
 - Typically measured orally
 - For young children, may be obtained rectally
 - Rectal temperature typically 1-2 degrees higher than expected reference range oral temp
 - Older adults may have slightly lower body temperatures, more susceptible to hypothermia, hyperthermia
 - Fever: temperature greater than 100.9

Patient Care for EKG Monitoring

- Interview patient to gather health history
 - Social history
 - Drinking, smoking, exercise habits, diet, etc.
 - Married, support system
 - Medical conditions
 - Valve replacement
 - Cardiac catheterization
 - Coronary artery bypass graft
 - Aneurysm repair
 - Childhood cardiac surgeries
 - Pacemaker implant
 - Heart transplant
- Surgical history
 - Document all surgeries
- Current medications
 - Allergies or adverse reactions to medications (in detail)
 - Document all medications, including name, dose, how often and time of day taken
 - Document all over the counter medications, herbal supplements and vitamins
 - Ask about birth control or erectile dysfunction drugs, they are sometimes forgotten

Patient Care for EKG Monitoring

- Educate patient about the procedure
 - Describe the purpose, length, steps, and patient preparation
 - Explain patient's role during test
 - Explain possible side effects, and follow up care
 - Answer questions, clarify misinformation, alleviate fears
 - Patient must understand procedure before giving informed consent
 - Be non-judgemental, demonstrate listening skills, make eye contact, face the patient

Patient Care for EKG Monitoring

- Assess the patient's knowledge base
 - Patients with cognitive disabilities and older adults may require extra time
 - Patients with sensory impairments may require more audiovisual media
 - If a patient speaks a language other than English, use an interpreter (not a family member)
- Explain details of EKG to patient
- Instruct patient to:
 - Remove electronic devices from pockets
 - Lie flat or with head slightly elevated
 - Avoid touching anything that conducts electricity
 - Remain as still as possible for approximately 10 seconds or the length of the test
 - Notify you if they experience itching, redness or swelling

Patient Care for Ambulatory (Holter) Monitor

- Explain to patient:
 - The Holter monitor is used to monitor the heart's electrical activity over a period of 24-72 hours
 - The monitor may detect problems that occur transiently
 - There are no significant side effects to the test
 - Electrodes placed on the chest need to stay in place throughout the test
 - The skin may need to be cleaned/abraded to place electrodes
- Ask patient of any latex or rubber allergies

Patient Care for Ambulatory (Holter) Monitor

- Instruct patient to:
 - Bathe prior to appointment
 - Wear loose fitting clothing (monitor may be worn with a bra)
 - Notify you if any redness, itching or swelling occurs
 - Continue normal daily routine
 - Keep monitor in place continuously (call the office if electrodes fall off or device malfunctions)
 - Keep a journal throughout the test--note date, time and duration of any symptoms
 - Lightheadedness, chest pain, breathing problems
 - Note date, time of medications, physical activity and sleep
 - Call 911 if any serious signs or symptoms occur

Patient Care for Ambulatory (Holter) Monitor

Ask the patient the following questions before they leave the office:

1. Is it okay to remove the electrodes?
2. Is it okay to remove the battery?
3. Is it okay to disconnect the leads or move them to a different location?
4. What should you do if you experience itching, swelling, or redness at the site of electrode placement?
5. Is it okay to go to work, exercise, etc while wearing the monitor?
6. What do you need to do when you experience any symptoms while wearing the monitor?
7. What should you do if your symptoms include chest pain, shortness of breath, unexplained profuse sweating, or passing out?

Patient Care for Stress Testing

- Stress test is used to determine heart function under increased workload, is designed to provoke ischemia
- Explain the procedure:
 - Patient walks on a treadmill or uses stationary bike until
 - Symptoms are detected
 - Patient becomes ill or excessively fatigued
 - Patient reaches target heart rate

Patient Care for Stress Testing

- Patient instructions before the test:
 - Wear comfortable walking shoes, loose-fitting/lightweight clothing
 - Don't eat, drink, smoke for 3 hours before test
 - Continue normal medication routine
- Ask about patient reactions to rubber and latex
- Ask about history of exercise-related asthma, respiratory distress, inhaler use
- Patient instructions during the test:
 - Notify you if any itching, swelling or redness at electrode sites occurs
 - Can stop the test if patient experiences fatigue, lightheadedness, dizziness, shortness of breath, chest pain
 - May need to sit or stand still after exercise while machine records heart activity
- Potential complications:
 - Low blood pressure
 - Abnormal heart rhythms

Monitor Patient Condition During Stress Testing

- Monitor patient for:
 - Abnormal vital signs (very high heart rate)
 - Arrhythmias
 - Signs of cardiopulmonary distress
 - Signs of ischemia (T wave inversion, ST segment changes)
- Stop test and notify physician if patient complains of dizziness, lightheadedness, nausea, severe shortness of breath, chest pain, or fatigue

Responding to Complications During Stress Test

- For persistent hypotension:
 - Have patient lie supine with legs elevated
 - Notify physician
- If patient suffers cardiac arrest or ventricular arrhythmias:
 - Resuscitate
 - Call EMS
 - Notify physician
- Continuously monitor patient during and after test
- Immediately report any concerning findings to physician

Patient Care for Telemetry Monitoring

- Explain that telemetry:
 - Monitors electrical system of the heart in patients at high risk for cardiac complications
- Determine if patient has reactions to rubber or latex
- Explain the procedure:
 - Cleaning skin, trimming hair, applying electrodes
 - Either CET or RN will monitor EKG
 - Monitors will alarm if EKG detects dangerous rate or rhythm
- Tell patient to notify you of
 - Itching, swelling, or redness at electrode sites
 - Electrodes fall off
 - Dizziness, lightheadedness, weakness, chest pain, nausea/vomiting, shortness of breath, profuse sweating

Signs of Cardiopulmonary Distress

- Tachycardia, bradycardia
- Pallor
- Diaphoresis
- Low blood pressure
- Fast, labored, shallow, or slow respirations
- Anxiety or confusion
- Cyanosis
- Chest pain that radiates to the back, arms or jaw
- Chest tightness

- Shortness of breath
- Nausea or vomiting
- Lightheadedness
- Weakness
- Syncope

****Notify physician if any of these symptoms are experienced!**