Meet the Client: Keith Roberts Keith Roberts, age 3 months, is seen in the well child clinic. His mother describes feeding as difficult since Keith tires easily. He has not gained weight as expected and his mother expresses doubts about her parenting ability. Her pregnancy was difficult, and she finds it stressful to care for her first baby who is not thriving.

**Physiologic Integrity: Physical Assessment**

The nurse recognizes that fatigue during feeding and failure to gain weight are characteristic signs of heart disease in infants. The clinic nurse conducts a comprehensive physical assessment of Keith.

Which findings support the nurse’s initial observation that Keith has an alteration of cardiac function?

Weak peripheral pulses.

The nurse determines that Keith has an alteration of pulmonary function based on exercise intolerance (fatigue during feeding) and which of the following signs?

Intercostal retractions.

The nurse auscultates Keith’s lungs and hears a loud holosystolic murmur at base of the left sternal border. The nurse recognizes this murmur is associated with which congenital heart defect?

Ventricular septal defect.

During the physical assessment, Mrs. Roberts expressed doubt about her mothering ability. She is upset about Keith’s “scrawny and weakling” appearance. She expresses fear of hurting the baby and fears that his illness is her fault. She appears drained and tired.

The nurse recognizes that Mrs. Roberts’ concerns are consistent with postpartum depression, as well as anxiety related to Keith’s illness. How can the nurse communicate physical assessment findings in a therapeutic manner for this mother?

“It’s difficult to cope with the loss of the robust baby you anticipated. However, I can see that your baby is well cared for.”

On physical assessment, Keith is found to have a cardiac murmur and signs of heart failure. He is referred to the children’s hospital for diagnosis of a probable congenital heart defect. Keith is scheduled for chest x-rays (which show prominent pulmonary arteries), blood gas analysis, and a cardiac catheterization. After talking with the cardiologists, the parents ask the nurse for more information about the cardiac catheterization.

Which explanation provides an accurate but nonthreatening description of the cardiac catheterization procedure?

A small catheter will be guided through the skin to the heart. Films will be taken to allow the physician to determine the best way to treat your baby.

Keith has blood drawn for arterial blood gas analysis. The laboratory results include:pH: 7.30 HCO3: 25 mEq/L PaCO2: 50 mmHg PO2: 70 mmHgHow should the nurse interpret these findings?

Respiratory acidosis and hypoxemia.

There is an order to administer oxygen to Keith via nasal cannula.

In addition to treating the hypoxia, what additional benefit is there to the administration of oxygen to this client?

 Decreased pulmonary vascular resistance.

Keith is stabilized and is prepared for cardiac catheterization. He returns to the unit following a right sided catheterization via the right femoral vein. Which postcatheterization nursing care action takes priority?

Conduct neurovascular assessments of lower extremities.

The nurse observes bleeding at the catheter insertion site. It is essential for the nurse to take which action?

Apply continuous pressure an inch above the percutaneous skin site.

Cardiac catheterization indicates that Keith has a large ventricular septal defect (VSD) with pulmonary vascular resistance. The HCP communicates the results to the Roberts as well as the diagnosis of heart failure. The parents are confused and they ask the nurse for more information.

The nurse includes parents in care by providing them with accurate information about the basic pathophysiology of VSD. Which explanation by the nurse is most accurate about VSD?

An opening between the lower heart chambers allows blood from the left heart to flow to the right heart and to the pulmonary artery, thus more blood flows to the lungs.

Despite explaining VSD, the repair, and encouraging questions and answers, Mrs. Roberts breaks down crying. She states her baby is going to die. The nurse gently probes her understanding and learns that Mrs. Roberts’ concept of heart failure means that Keith is at risk for sudden death.

The nurse provides Mrs. Roberts with an explanation of heart failure for infants with a structural heart defect. Which is the best explanation the nurse could provide about heart failure in infants?

There is increased pressure in the right heart caused by the septal opening. Until the hole is patched during surgery, the heart does not beat effectively. This causes congestion in the lung and venous circulation.

The nurse wishes to further allay parental anxiety. The nurse explains healing interventions and the parents’ role in care.The nurse explains measures that will be implemented to improve Keith’s cardiac function. Which is the most important intervention for the nurse to implement?

Administering digoxin and Captopril.

The nurse has determined a nursing diagnosis for Keith is deceased cardiac output related to cardiac defect.

When assessing the client, which subjective and objective data support the client’s diagnosis of decreased cardiac output related to cardiac output?

Pale, cool extremities.

Increased heart size on x-ray.

Hypotension.

Medical management is initiated to improve Keith’s cardiac output. Prescriptions include administration of oral digoxin (Lanoxin).

Initially a digitalizing dose of 20 mcg/kg is ordered by mouth every 12 hours over 24 hours. What measures must the nurse implement to assure client safety?

Monitor for dysrhythmias via ECG monitor.

Keith is successfully digitalized and is starting on a maintenance dose of dixogin (Lanoxin). The maintenance dose for Keith is 10 mcg/kg daily. He weighs 11.02 lbs (5 kg). The dose on hand is an elixir of 0.05 mg/mL. How many mL will the nurse administer? (Enter numeric value only. If rounding is necessary, round to the nearest whole number.)

1.0

The nurse provides instruction to Mrs. Roberts regarding administration of digoxin (Lanoxin) to 3-month-old Keith. The mother is advised not to give the digoxin (Lanoxin) if the apical pulse is below what rate?

90 bpm.

The nurse wishes to reduce cardiac demands on Keith’s heart. Which is the most appropriate measure to incorporate in the client’s plan of care?

Consolidate nursing care to allow for rest periods.

The nurse is late for Keith’s 0800 feeding. She hears him cry and enters the room to find him cyanotic with a respiratory rate of 70. Which immediate action should the nurse take?

Place in knee-chest position and give morphine.

Keith’s hypercyanotic spell indicates the need for immediate surgery. He will undergo bypass surgery with closure of the septal defect with a Dacron patch and pulmonary banding.

Keith’s parents are anxious about surgery. Which psychological instruction should the nurse provide to the parents?

A tour of the Pediatric Intensive Care Unit.

Keith returns to the Pediatric Intensive Care Unit (PICU) following cardiac bypass surgery with closure of the septal defect and pulmonary banding. The nurse prioritizes careful monitoring.

Which are the most common assessment findings in the immediate postoperative period following VSD repair?

Dysrhythmias and conduction disorders.

The nurse monitors Keith’s blood pressure. Readings are 110/65 mmHg. Which nursing intervention is most important during the postoperative period?

Report the findings to the HCP.

The HCP prescribes captopril (Capoten) 1.5 mg by mouth. It is most important for the nurse to implement which intervention?

Monitor blood pressure.

Keith had chest tubes inserted during surgery. The nurse observed that over the last 4 hours the chest tubes drained 25 mLs of bloody drainage. Which priority action should the nurse take?

Notify the HCP immediately.

Oral feedings are to be initiated. The nurse develops a feeding care plan. Essential elements to include in the nutritional plan of care for Keith include which of the following?

Limit feedings to 20 minutes.

**Safe and Effective Care: Growth and Development**

Keith recovers from surgery and is transferred to the acute care unit. Mrs. Roberts is increasingly involved in his care.

The nurse observes that Mrs. Roberts becomes hypervigilant and often mentions that the baby is fragile. Which concepts in anticipatory guidance need to be introduced by the nurse?

Promoting independence and consistent limit setting.

Keith recovers from surgery without complications. His parents’ confidence in parenting skills increased with supportive nursing guidance. Keith begins to gain weight and the Roberts learned to promote age-appropriate development. They demonstrate competence in medication administration and follow guidelines for follow up.