Case Study
Dylan Banks
Cardiac Catheterization

Three week old male infant, Dylan Banks, diagnosed with Down syndrome and ventricular septal defect (VSD), is admitted for cardiac catheterization. Dylan is a mild congestive heart failure. His birth weight was 7 lb. 9 oz. He has a history of Tachypnea (50-70 breaths per minute), poor feedings, a recent onset of diaphoresis, and decreased urine output (3-4 wet diapers/day). Dylan has just returned to the unit, status postcardiac catheterization. Today’s weight is 7 lb. 10 oz.

Post-catheterization orders:
- Admit to cardiac unit
- Diagnosis: down syndrome, VSD
- Status postcatheterization
- Condition: stable
- Diet: as tolerated, breast-feeding
- Daily weight
- I&O
- O2 @ 2-4 L/min per NC
- Furosemide 1mg/kg P.O. stat and Q 12 hours (stock: 10 mcg/ml)
- Routine nursing postcardiac catheterization

Dylan is placed in a crib by the OR transporter. He is accompanied by his parents. Nasal flaring and mild substernal retractions are apparent.

Questions:
1. Why has the health care provider prescribed a cardiac catheterization? What information will this procedure provide in a child or an adult client?
2. What are the potential contraindications that can prevent someone from being able to have a cardiac catheterization? Why is this of concern?
3. What assessment data needs to be obtained? What interventions would be appropriate for adults and pediatric clients? Explain the rationale for the assessment data & interventions.
4. Identify pertinent findings in Dylan’s history that are indicative of VSD. How would the pathophysiology of VSD by explained to his parents?
5. What equipment will Dylan need? Why? What position should Dylan be in? Why? After the nurse’s initial assessment postcatheterization, what will he/she tell the parents?
6. Describe two or more appropriate nursing diagnoses to consider for adult or pediatric client prior to having the cardiac catheterization?
7. Explain what a cardiac catheterization involves and how long the client or parents (family) can expect the procedure to last. Briefly describe the difference between a left-sided and right-sided catheterization.
8. What are the risks of having a cardiac catheterization? What are the three most common complications during the procedure?
9. List at least five manifestations of an adverse reaction to the contrast dye the nurse will watch for?
10. How soon will the client or parents know the results of the cardiac catheterization?
11. What is “informed consent”? Is consent required prior to a cardiac catheterization? Why or why not?
12. Calculate the medication dosage. Discuss Furosemide and digoxin: action side effects, parent teaching.
13. Immediately following the cardiac catheterization procedure, what is the nurse’s responsibility to help minimize bleeding at the femoral puncture site, and what will be the activity of an adult and pediatric client?
14. Discuss the priorities of the nursing assessment following a femoral cardiac catheterization. Be sure to note in your discussion when the health care provider should be notified?
15. What are four nursing diagnoses to consider following the cardiac catheterization?

0900: assessment data for Dylan is as follows: Equal bilateral pedal pulses, good capillary refill, toes warm, no edema, dressing D & I, infant awake, rooting. Apical pulse: 140, respirations 40, T 96.8 F.

0930: Infant is crying weakly and refusing to nurse. Serosanguinous oozing noted at site, legs cool to touch, affected leg color is slightly mottled. Infant has not had a wet diaper for 3 hours. Pulse in affected limb is 120, unaffected 132, apical pulse 132.

16. How will the nurse handle pediatric feedings (position for breast-feeding) or adults bathroom needs?
17. Analyze vital signs and physical findings and their progressions. What is their significance and what should the nurse do?
18. List and explain appropriate nursing interventions for Dylan at this time.

Dylan is to be discharged this evening if everything is stable (no further bleeding, vital signs WNL, good perfusion, and instructions give to parents).

Question:
19. Prepare a general Parent Education Sheet and adult after care form outlining pre and post cardiac catheterization care for the unit’s Education Manual. Pay careful attention to important information that parents need.

Focus thought:
Dylan’s mother is only three weeks postpartum, and in addition to her physical and emotional needs, she has to cope with the extraordinary needs of a child with Down syndrome and congenital heart disease. She may experience postpartum “blues” or postpartum depression. Discuss and describe the blues and depression. How might the nurse indentify these conditions? What (if any) referrals should be made? How can the nurse be of the most help to his mother? How would you expect the family to adjust to this child? What would be needed to help with the family to Dylan?