

need not be painful (see [Blood Specimens, Chapter 20](#)) with the topical application of an eutectic mixture of local anesthetics (EMLA; lidocaine and prilocaine) or 4% lidocaine (ELA-Max or LMX) before needle punctures (see [Pain Management, Chapter 5](#)). Therefore, the nurse is responsible for preparing the child and family for the tests by:

- Explaining the significance of each test, particularly why the tests are not all done at one time
- Encouraging parents or another supportive person to be with the child during the procedure
- Allowing the child to play with the equipment on a doll or participate in the actual procedure (e.g., by holding the Band-Aid)

Older children may appreciate the opportunity to observe the blood cells under a microscope or in photographs. This experience is especially important if a serious blood disorder, such as aplastic anemia, is suspected because it serves as a foundation for explaining the pathophysiology of the disorder.

Bone marrow aspiration is not a routine hematologic test but is essential for definitive diagnosis of the certain anemias such as severe aplastic anemia.

Nursing Tip

The following are suggested explanations for teaching children about blood components:

Red blood cells: Carry the oxygen you breathe from your lungs to all parts of your body

White blood cells: Help keep germs from causing infection

Platelets: Small parts of cells that help make bleeding stop by forming a clot (scab) over the hurt area

Plasma: The liquid portion of blood, which has clotting factors that help make bleeding stop

Decrease Tissue Oxygen Needs

Because the basic pathologic process in anemia is a decrease in