

description of the tests in [Box 7-2](#)). For infants with a gestational age of at least 26 weeks, the examination may be performed up to 96 hours after birth; however, it is recommended that the initial examination be performed within the first 48 hours of life. In a study of preterm infants ranging from 29 to 35 weeks at birth, Ballard scores completed after 7 days after birth were found to either overestimate or underestimate gestational age by up to 2 weeks ([Sasidharan, Dutta, and Narang, 2009](#)). In a blinded Spanish study, [Marín Gabriel, Martín Moreiras, Lliteras Fleixas, et al \(2006\)](#) compared estimations of gestational age using NBS versus ultrasonography or the mother's last menstrual period. Researchers found general agreement between NBS and ultrasonography or last menstrual period; however, they noted that NBS tends to overestimate gestational age in very preterm newborns and in infants whose mothers had received prenatal corticosteroid therapy.

## **Box 7-2**

### **Tests Used in Assessing Gestational Age**

**Posture:** With infant quiet and in a supine position, observe degree of flexion in arms and legs. Muscle tone and degree of flexion increase with maturity.

*Full flexion of the arms and legs—4\**

**Square window:** With thumb supporting back of arm below wrist, apply gentle pressure with index and third fingers on dorsum of hand without rotating infant's wrist. Measure angle between base of thumb and forearm.

*Full flexion (hand lies flat on ventral surface of forearm)—4*

**Arm recoil:** With infant supine, fully flex both forearms on upper arms, hold for 5 seconds; pull down on hands to fully extend and rapidly release arms. Observe rapidity and intensity of recoil to a state of flexion.

*A brisk return to full flexion—4*

**Popliteal angle:** With infant supine and pelvis flat on a firm surface, flex lower leg on thigh and then flex thigh on abdomen.