neurology, neurosurgery, pediatrics, urology, orthopedics, rehabilitation, physical therapy, occupational therapy, and social services, as well as intensive nursing care in a variety of specialty areas. The collaborative efforts of these specialists focus on (1) the myelomeningocele and the problems associated with the defect—hydrocephalus, paralysis, orthopedic deformities (e.g., developmental dysplasia of the hip, clubfoot; scoliosis), and genitourinary abnormalities; (2) possible acquired problems that may or may not be associated, such as Chiari II malformation, meningitis, seizures, hypoxia, tethered cord, and hemorrhage; and (3) other abnormalities, such as cardiac or gastrointestinal (GI) malformations. Many hospitals have routine outpatient care by multidisciplinary teams to provide the complex follow-up care needed for children with myelodysplasia.

Many authorities believe that early closure, within the first 24 to 72 hours, offers the most favorable outcome. Surgical closure within the first 24 hours is recommended if the sac is leaking CSF (Kinsman and Johnston, 2016).

A variety of neurosurgical and plastic surgical procedures are used for skin closure without disturbing the neural elements or removing any portion of the sac. The objective is satisfactory skin coverage of the lesion and meticulous closure. Wide excision of the large membranous covering may damage functioning neural tissue.

Associated problems are assessed and managed by appropriate surgical and supportive measures. Shunt procedures provide relief from imminent or progressive hydrocephalus (see Chapter 27). When diagnosed, ventriculitis, meningitis, urinary tract infection, and pneumonia are treated with vigorous antibiotic therapy and supportive measures. Surgical intervention for Chiari II malformation is indicated only when the child is symptomatic (i.e., high-pitched crowing cry, stridor, respiratory difficulties, apnea, oral-motor difficulties, upper extremity spasticity).

Early surgical closure of the myelomeningocele sac through fetal surgery has been evaluated in relation to prevention of injury to the exposed spinal cord tissue and the improvement of neurologic and urologic outcomes in the affected child. The Management of Myelomeningocele Study, a clinical trial supported by the National Institute of Health, found that prenatal surgery for myelomeningocele reduced the need for shunting (for