

- It is miscible with both hydrophilic and lipophilic drugs.
- It is a skin protectant that shields skin from external irritants.
- Its semioclusive nature retains essential skin moisture but allows excess fluid to escape.
- Its oxygen permeability allows oxygen to reach the wound.
- Essential lipids (fatty acids and cholesterol in lanolin alcohol) help restore the skin's protective barrier.<sup>5</sup>

The placement of Questran into Aquaphor brings the best of both products together to help address problematic diaper rashes. I can tell you by experience that when diaper rashes become problematic, it makes both the little ones and the parents/grandparents extremely uncomfortable! This is a simple example of nonsterile compounding, but one that brings relief to patients in need.

### **Example of Sterile Compounding for Office Use**

Let's go back to the compounded drug that caused the fungal meningitis outbreak in 2012. The compounded drug was an epidural steroid injection (ESI). According to WebMD, an ESI is a combination of a corticosteroid with a local anesthetic pain relief medicine. Corticosteroids are strong anti-inflammatory medicines that are similar to natural hormones produced in the body that help control many necessary functions. Corticosteroids help relieve swelling and inflammation, taking pressure off nerves and other soft tissues that cause pain.

Because corticosteroid medicines take time to work, the local anesthetic medicine helps provide the patient immediate pain relief. The ESI is injected into the epidural space, or the space around the spinal cord and nerve roots. (Figure 2.2 shows a spine from the Southwest Scoliosis Center.) Patients usually receive short-term (2–3 weeks) relief from their pain through the use of ESIs.<sup>6</sup>

It is my understanding that hundreds of thousands of patients have benefited from ESIs. However, for the 14,000 people who received the tainted doses, the 751 people who were infected, and the 64 people who died, I would question the word *relief* in the definition. The fact is that it *should* have been safe if the drug was compounded in a sterile environment under 797 standard current good manufacturing practices (cGMP).