1) A 12-year old with a history of severe developmental delay and cerebral palsy presents unresponsive, hypotensive, and with minimal respiratory effort to the ED. Upon rapid initial physical exam, she is found to have a small round metal device implanted under the skin of her lower abdomen. Her parents indicate the device is a Baclofen pump used to help manage her spasticity. The initial priority is:



A) Establishing an airway with ventilatory support

B) Administration of IV/IO Narcan (naloxone)

C) Disabling and preparing for surgical removal of the Baclofen pump

D) Labs for a full toxicology screen and initiation of the facility's child abuse/endangerment protocol

A - This is an example of a complicated question with an uncomplicated answer. Remember your ABCs! Airway, airway, with a side of airway. The most important part of the child's presentation is the minimal respiratory effort. That means she's barely breathing. So, picking an answer that reflects having a patent airway and adequate breathing is a great choice.

But, what about beyond the ABCs... *What are the Basics of Baclofen*?

Spasticity involves tight, stiff muscles that make movement, especially of the arms and legs, difficult or uncontrollable. It happens when there is an injury to a part of the brain or spinal cord that controls voluntary movements. Baclofen is a derivative of gamma-aminobutyric acid (GABA) and more importantly, is a muscle relaxant with anti-spasticity effects. In children with spasticity from cerebral palsy, multiple sclerosis, or spinal cord injuries, oral Baclofen is commonly tried first. However, when the oral route doesn't bring about the desired effects or produces too many undesired side effects, the intrathecal "spinal" pump has been found to achieve good results.

The Baclofen pump continuously administers the medication directly into the spinal canal which not only treats the issue at the site but allows for a much lower dose. The intrathecal dose of Baclofen is 100-1,000 times **less than** the oral dose. Wow! But, as such, a little difference in dose can make a big difference in symptoms. Baclofen does cross the blood-brain barrier and the associated symptoms of toxicity or withdrawal are actually very similar to opiate overdose or withdrawal.

Too much Baclofen (muscle relaxant) results in children who are way too relaxed. So relaxed, in fact, that they may be unconscious and not breathing very well, if at all. Too little Baclofen results in children who are not nearly relaxed enough and leads to serious spasticity or seizure activity.

In this case, management of presumed Baclofen toxicity first involves what can be immediately treated. Start with "ABC" which means maintaining a patent airway, assistance with breathing, and circulatory support with fluids, pressors, etc. Then, once the ABCs are addressed, steps can be taken to temporarily disable and drain the pump. This is important, but not as important as airway management.

Narcan works great for opiate overdoses, but does not work for Baclofen overdoses. Obtaining labs may be helpful, but should never come before the ABCs, and nothing in this presentation indicates that there would be a high level of concern regarding abuse or maltreatment.

And always remember with healthcare ABCs, *Breathing comes before Baclofen*!

