

That Water Bead Lady

Messaging Guide: Raising Awareness with Healthcare Professionals About Water Beads

Many clinicians may underestimate the risks water beads pose to children, due to the social connotation of the word “non toxic”, misleading advertisements, and unregulated labeling term usage. The term ‘non toxic’ is unregulated and meaningless without the context of the product’s chemical ingredient composition. As of 2011, the term “non-toxic” does not appear in the Federal Hazardous Substances Act (FHSA), rendering the term unregulated due to a lack of a definitive legal definition.

We can all agree adult supervision, careful attention to a child’s environment, and researching products are important safety factors. But, we must remember that adult supervision and clean houses will not make inherently unsafe products safe. The impression that water bead injuries are prevented by individual actions like watching children more closely or better housekeeping undermine the intended safety message and should be avoided. For water bead injuries, the language of conventional injury prevention and advocacy is ineffective. It inadvertently leads the public to blame negative outcomes on individual failures rather than the unsafe product. As a result, the public is more likely to ignore safety recommendations and point the finger of blame at parents and even the young innocent victims of dangerous products.

Water beads hide easily in carpet fibers, under furniture, appliances, and in other toys. They shrink down to the size of a pinhead when dehydrated, are often transparent when fully hydrated, and can be swallowed, aspirated, or inserted into the nose or ear very quickly even when an adult is looking directly at the child. A number of families have children who have been harmed by water beads after the family chose to throw them away or their child discovered water beads at a playground or school. Overconfidence in the effectiveness of adult supervision in preventing water bead injury, not only by parents but teachers, therapists, and clinicians can delay help being sought, diagnosis, and treatment. Caregivers may assume they have avoided disaster only to learn later, when the kid exhibits symptoms, that a water bead was ingested, aspirated, or inserted. If doctors cannot identify the water beads on imaging, they may dismiss parental concerns as unjustified and underestimate the seriousness of the problem, increasing the amount of time the child is exposed to the beads and the potential for complications.

The best way to prevent water bead injuries is for the beads not to be purchased or used in homes with children and pets. You can help families avoid tragedy by offer caregivers ideas for safe edible alternatives to use for sensory play like jello, tapioca pearls, crushed cereal, rice, pasta, flour, marshmallows, brown sugar, cream of wheat porridge for the sand etc. A water bead ingestion, insertion, or aspiration requires prompt medical attention. Early identification and diagnosis of water bead ingestion, aspiration, or insertion is key to avoiding devastating complications and to decrease healthcare costs for families, hospitals, and insurance companies.

Take action when a water bead incident has occurred...

- **The best way to prevent water bead-related harm to kids and pets is to avoid using them in the first place!**
- **Both parents and practitioners need to be aware of the potential dangers of water bead ingestion**
- **Early diagnosis of water bead ingestion, aspiration, or insertion is key to prevent complications and decrease healthcare costs.**
- **Research has shown age restriction and parent observation are ineffective at preventing water beads injuries (Alharbi & Dabbour, 2020).**
- **Case management should not conform to standard protocols of foreign body removal, and early removal whenever possible should be attempted to prevent complications such as obstruction, lung injuries, exposure to toxic chemicals, nasal cavity injuries, hearing loss, infection, seizures, brain injury, sepsis and death (Caré et al; Faytrouni et al., 2021; Han et al., 2021; Mirza & Sheikh 2012; Gardner et al., 2021) .**
- **Most often, a caregiver will have no idea their child has swallowed, inserted, or aspirated a water bead because these incidents happen so quickly, they can occur even when the parent is looking directly at the child. Furthermore, Pediatric patients are not reliable historians and water bead injury events are not typically witnessed (Sterling et al., 2016)**
- **Water beads are prone to breaking into pieces when touched. It is often impossible to remove them with hooks or forceps; instead, suctioning performed multiple times has proven to be most effective when removing them from the nasal cavity (Han et al., 2021)**
- **Early recognition of otologic foreign bodies is important, particularly if expansile water-bead is suspected. Depending on time frame, water beads are highly destructive to the middle ear structures, and most patients will require surgical intervention (Zalzal et al., 2022)**
- **If the water beads are not endoscopically accessible and the patient is asymptomatic then we recommend watchful management with monitoring for signs of bowel obstruction in the ensuing 96 hours (Faytrouni et al., 2021)**
- **Water beads are radiolucent and difficult to detect on plain radiographs. Plain films will only show consequent complications such as obstruction. Ultrasounds may demonstrate the gel balls represented by cystic structures but has also been described to mimic other pathological findings such as enteric duplication cysts (Faytrouni et al., 2021; Kim et al., 2020)**
- **Water beads can remain in the respiratory tract undetected, a boy was diagnosed with focal lung bronchiectasis in the left lower lobe, which occurred after the patient aspirated a water bead the year before. The bead was removed using flexible bronchoscopy and a retrieval basket (Alharbi & Dabbour, 2020).**
- **Surgical management with complete removal of water bead granules from the gastrointestinal tract is required, when the child presents to hospital with intestinal obstruction symptoms and surgeons must be aware the beads have the ability to collect lower in the GI tract and form a new mass if all beads are not removed. Surgeons should also be aware ultrasound can miss beads lower in the digestive tract (Shangareeva et al., 2019).**
- **If enterotomy is performed look for signs of edematous and swollen bowel mucosa. Even if the bowel looks to be healthy, there is a danger of anastomotic leak and intestinal compromise which can result in severe complications including infection, septicemia, and death (Mirza & Sheikh 2012; Caré et al).**
- **Clinicians should be aware acrylamide monomer poisoning clinical manifestations may be similar to a severe sepsis with acute nervous, cardiac, pulmonary, renal, and hepatic effects (Banagozar Mohammadi et al., 2015; Han et al., 2021) There is no antidote for for acrylamide monomer poisoning. Refer to early childhood intervention, neurology, and developmental pediatrician if needed.**
- **Around 30% of water bead incidents have been found to occur while the child was at school (Alharbi & Dabbour, 2020).**
- **Non toxic is an unregulated term.**
- **Water beads are not toys.**
- **Water beads can be toxic.**
- **Water beads are dangerous.**
- **Just one water bead can kill.**

