

Managing Potentially Hazardous Biofluids in the Field

Proper biofluids management produces important infection control, safety and economic benefits. Biological fluids, or biofluids, such as blood, urine, vomit and after-birth, are commonly encountered by First Responders at the scene of a traffic accident, at a crime scene, or in any number of medical emergencies. And they are a real problem! They present health hazards to the responder, present slip and fall conditions in moving vehicles, create down time for equipment, cost lost time and real dollars in clean up, cause regulatory compliance dilemmas, soil uniforms, and are down right nasty to deal with.

The Key is to Manage the Mess before it Becomes a Mess.

There are new products available that are specifically designed for the management of biological fluids in the First Responder environment – super absorbent antimicrobial barrier pads. They are engineered to provide a barrier between the fluids and the responder, absorb large volumes of liquids without dripping, and have an antimicrobial added to control bacteria and odors. Integration of these new pads into the fluid management procedures in the field will improve safety, reduce clean up costs and equipment turnaround times, foster regulatory compliance, and eliminate some of the unpleasant tasks First Responders now perform.



In most, if not all, circumstances, there is simply no way to know whether the biofluids pose an infectious threat to the First Responder. For this reason, all biofluids must be considered as biohazardous, and dangerous to the health of the professional, and of others in the area. First Responders are more at risk than other medical professionals because the biofluids they encounter in the field are largely uncontrolled. Bleeding may be uncontrolled, or a victim incontinent, or a field birth imminent. These incidents give rise to an unpredictable spread of biofluids which can then lead to contamination and health risk to those in the area. Here are some examples of uncontrolled biofluids – any of them seem familiar?

Uncontrolled Biofluids Encountered by First Responders

- When irrigating burns or wounds, or flushing the face and eyes.
- During IV starts that may go awry.
- For most injured patients who are, or will be, incontinent.
- In massive trauma cases, compound fractures, gunshot wounds, scalp injuries, etc.
- Childbirth
- On the ground, where biofluids may mix with radiator leakage or rain and snow.
- Down below, when hoisting an incontinent patient in a Stokes Basket for air evacuation.
- On the floor of the vehicle, where fluids may pool.
- On the equipment, backboard, gurney.
- On the ambulance/helicopter seats (that may have been on the provider's clothes).
- On your uniform, shoes or skin.

Just as the First Responder's first priority is to "Stabilize the Patient" for the patient's well being, so must an equally important first priority be to "Regain Control of Biofluids" for the First Responder's own health and safety. These priorities need not be "either - ors" – they can be done efficiently together. The key to managing biofluids is the super absorbent barrier – a polyethylene backed (barrier) super absorbent (core) with an antimicrobial added to reduce the bio-burden once it is absorbed.

What is a super absorbent? A scientifically designed wood fiber non woven (similar to paper towels) to which is added microscopic beads that attract fluids, and hold 30 to 50 times their weight in water. Super absorbents not only absorb the liquid, they trap it, actually gel it, so that leakage and dripping are avoided during disposal.



Here are some guidelines for proper biofluids management that you may wish to incorporate into your procedures manual:

Proper Biofluids Management Guidelines

- Employ a super absorbent barrier between the biofluids, or a potential source of biofluids, and you, your equipment and your vehicle.
- Use them absorbent side up under a patient to anticipate incontinence, or under a scalp wound, or to protect the seat in your vehicle or a sofa in your patient's home.
- Use them barrier side up on the ground as a drop cloth to keep your gear out of biofluids, or as knee pads to keep your uniform clean.
- Keep the super absorbent barrier handy – tucked under the gurney pad and in your medical kit. Expect incontinence and bleeding to occur and be ready.
- Absorb the biofluids quickly, before they have a chance to spread – onto the floor, your clothing, the gurney mechanisms, etc.
- Use a product with a super absorbent that gels or traps the fluids, to avoid leakage and dripping during disposal.
- Use a super absorbent barrier that has an antimicrobial in it, to both reduce the biohazard and control odors, especially if waste pick-up is several hours or the next day away.

The key to biohazard control is to manage the mess before it becomes a mess. The farther a biofluids spill is allowed to spread, the more likely it is to contaminate and infect the workers and other patients in the care area. It is also just simple math and probabilities that the broader the contaminated area is, the more likely it is that decontamination procedures at the end of the call may miss some areas of contamination.

Super Absorbent Barrier Pads are Key to Biofluids Management

Proper biofluids management produces important safety and economic benefits in addition to infection control. This is why both First Responders and their superiors care about Managing the Mess:

Benefits of Proper Fluid Management Procedures

- **Cost Effective** - Absorbing fluids at their source, before they drip on equipment or run along the floor, saves clean-up time, and improves equipment turn around.
- **Improved Work Environment** – First Responders do whatever it takes, and they don't complain. But why have highly trained personnel doing extended clean-up, when they can be sent out on a call?
- **Efficient** – First Responders know that using the right tool for the task saves time, energy and improves results. Super absorbent barrier pads are the right tool to manage biofluids in the environment.
- **Reduced Spill Hazards** - When super absorbent barrier pads are handy, spills get absorbed quickly - workers will be at a reduced risk to slip and fall in a moving ambulance or during air transport.
- **Better Infection Control** - Super absorbent barrier pads trap the nosocomial pathogens in the fluids that they absorb - that's safer.

Compliance with EPA and other State Health Code Regulations is also important. California, in particular, and increasingly other states, are showing grave concerns about the practice of hosing down blood and other biofluids into the sewer systems. Free flowing biofluids are considered biohazardous by definition. Super absorbent barrier pads are ideal for meeting these regulatory requirements. When there is a spill of blood on the pavement, spray the spill with some water, then place the pad, barrier side up, over the area, blot up the spill, and dispose of it in accordance with state and local requirements.

For the safety of the First Responder, for time and cost savings, and for compliance with State and local regulations, it is imperative to develop proper biofluids management procedures that integrate the regular use of super absorbent barrier pads into front line operations.

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