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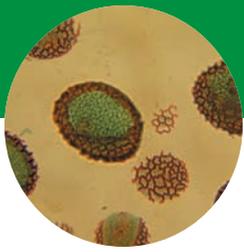
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Cleaning Contaminated Contents: The Neglected Aspect of Remediation — Part 4

Completing the Dozen D's of Cleaning Contaminated Contents

For three months I have been sharing information regarding the recovery of contaminated contents. Because of the difficulty of removing contaminants from soft, porous materials, I have focused on technologies such as the Esporta system that can be used successfully on soft goods contaminated with sewage, fire residue and other hazardous substances. Last month I introduced the Dozen D's and explained the first six concepts of the overall process that cleaning and restoration contractors need to consider when dealing with contaminated contents. In this final installment we will consider the last half dozen. To recap, the Dozen D's of cleaning contaminated contents are:

1. Defend workers involved in the cleaning process against contaminants.
2. Develop content cleaning capabilities and programs.
3. Determine if contents are contaminated.
4. Decide on the cleaning location.
5. Demarcate the items to be processed.
6. Divide contents by porosity and contamination.
7. Deduce appropriate cleaning methods.
8. Deliver contents safely to the cleaning facility.

9. Dedicate necessary time and resources.
10. Decontaminate the contents through proper cleaning.
11. Demonstrate that the contents are clean.
12. Document the process and outcome.

7. Deduce appropriate cleaning methods.

Given enough technical information, deducing which cleaning methods are best for each class of contents should be a fairly simple effort — or is it? The variety of methods available means that there can be more than one right answer. The goal is not just picking a process that works, but matching cleaning methods with end goals and setup considerations. This also involves consideration of the overall cost effectiveness of a particular cleaning process, including deliberation on transportation (more on this later).

For example, contractors are often faced with making a decision about whether clothes or other impacted contents should be washed or dry cleaned. And now they should consider specialized laundry systems such as Esporta, as well. The cleaning method selected not only depends upon the type of contents and contaminants, but also the contractor's capabilities and partnership arrangements. Another key consideration is whether one system or

cleaning process can be used for a wide variety of items. The savings in soft costs of sending all contents to a single site for cleaning can



make a real difference in the ultimate success of a project through lower transportation costs and coordination efforts.

A word of caution is necessary, however, in regards to certain classes of contaminated contents. Sending artwork, photographs, musical instruments, high end electronics like big screen televisions, Oriental rugs, and critical documents to companies that specialize in those items is definitely worth the extra effort involved, since the value of such goods and the risk of damage from improper cleaning places a significant risk on the contractor who offers one stop shopping.

8. Deliver contents safely to the cleaning facility.

Discussions about delivery always involve tracking and chain of custody issues. Digital photos of the loss site and each individual item coupled with a bar code labeling system can be linked to specialized software that accelerates the pack-out process without creating inventory control nightmares.

Contaminated contents require additional transportation efforts such as dedicated closed containers (*e.g.*, rolling laundry or Rubbermaid bins) to minimize the spread of cross contamination. Even transport vehicles should be scrutinized and selected based on easily cleanable interior surfaces or those outfitted with temporary polyethylene sheeting protection. Some contractors have instituted a process of vehicle decontamination following the transport of contaminated items using technology like the Biomist system on regular vehicle interiors.

The same precautions need to be taken with storage vaults, using specific ones with appropriate protection for transport of contaminated goods, and cleaning them before they are returned to regular service. A number of contractors have sped up the cleaning process by painting the inside of their wooden vaults with anti-microbial coatings.

9. Dedicate necessary time and resources.

This “D” may seem self explanatory, but it is surprising how many contractors don’t dedicate enough time and resources to implementing the detailed plan that they developed. They underestimate the manpower, equipment, supplies, and oversight necessary to process large quantities of household or commercial goods under difficult field conditions. Before taking on a project with contaminated contents look at your current capabilities, workload and partnerships and ask: “Do we have the staff, equipment and supplies to do it right?”

10. Decontaminate the contents through proper cleaning.

You have a plan and have chosen the perfect combination of appropriate

methods to decontaminate the contents; now it is time to execute. The adrenaline is flowing and real work is about to begin. It is at this stage that a reality check is in order. Have you answered the three basic questions crucial to all such projects and communicated those answers to your crew?

- **Why** are we cleaning?
- **What** is it we’re trying to remove?
- How do we prove that it is **working**?

Now is the time to double check and ensure that you have done a thorough assessment and are not cleaning items that are more efficiently replaced. Confirm that you know the hazards your team is facing and are prepared to deal with them. And make sure that everyone involved knows your ending criteria before you start the project so they can all work with a purpose in mind.

This is also a great time to make sure that you are operating within government and industry guidelines. For some contaminants such as visible mold on porous materials, cleaning rather than disposal is still considered to be outside the standard of care. In a similar fashion, treatment (as opposed to cleaning) using processes such as ultraviolet germicidal irradiation (UVGI), ozone, chlorine dioxide, hydroxyl-radicals, and other non-traditional methods is not wise, despite aggressive sales pitches.

11. Demonstrate that the contents are clean.

There are a number of steps that can be used to confirm that you

accomplished the task of appropriately cleaning contaminated soft goods. At a minimum this process involves a detailed, thorough visual inspection by the contractor. However, since many of the contaminants that we’ve discussed throughout this series of articles are microscopic in nature, a visual inspection may not be enough. Even an olfactory inspection — a fancy term for the sniff test — may not be good enough as residual biological contamination such as viruses and bacteria could be present on an item without producing an odor strong enough to be detected by smell.

In such cases, some form of sampling is necessary. When cleaning contents, the contractor has the choice of performing in-house sampling, utilizing the services of an independent third party or both. The size and scope of the project, as well as the region of the country where the work is being done, are the primary factors in determining whether post-cleaning sampling should be done in-house or by a skilled consultant. Regardless of who does the sampling, the cleaning and restoration contractor must understand the criteria that will be used to evaluate the samples *before* the cleaning begins.

If a third party is going to be used, this may pose some difficulties since the consultant may not have been chosen at the time the work begins, or they may be reluctant to share their methodology for determining if the contents have been returned to a pre-loss condition. Beware! Generally, a consultant’s reluctance to share specific details regarding the criteria

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for evaluating cleaning projects means that he probably doesn't even have an objective measuring stick, but prefers to fly by the seat of his pants based on his "experience." This approach is a recipe for disaster, since the contractor can be held to a floating standard after the work has been completed.

Most restoration professionals know that having a clear scope of work with a defined endpoint has an entire range of benefits, including improved project efficiency, reduced liability, smoother project close-out and fewer callbacks. But without the comfort of federal or state regulations to guide remediation efforts, when can a contractor say that contents are clean? In such work environments it is critical for contractors to understand the importance of doing *something*. Research the areas into which you are expanding and follow the consensus points in the standard of care. Choose an independently developed comparison criteria and be consistent with internal project evaluation. Develop internal procedures that use a multi-step process including a thorough visual inspection, appropriate post-remediation quality control sampling by the contractor and, if necessary, verification inspection and sampling by a third party. One example of an independent guideline for determining if sewage-contaminated contents are properly cleaned has been published in a number of industry journals under the title *Baxter/Pinto Guidelines for Verification of Water Restoration Effectiveness*. (A copy can be found at the website www.wondermakers.com, Education_Articles.)

12. Document the process and outcome.

Our final D is the one that many contractors find most onerous:

documentation. But documentation does not have to be difficult. Most of the necessary information is probably already being collected and just needs to be properly organized as part of the project file. Typical items of documentation when handling contaminated contents include:

- Before and after photographs
- Work logs
- Detailed visual inspection reports
- Sample results
- Complete reports, including signatures, related to third-party verification

Cleaning Contaminated Contents is a Multi-Step Process

With the advent of new equipment and processes for cleaning contaminated soft goods, restoration contractors and consultants are now in a position to offer fact-based advice following traumatic situations like floods, sewage backflows and even fires. Still, overcoming obstacles while saving both dollars and valuable memories requires careful planning and adherence to rigorous standards during a post-decontamination evaluation.

From a project management standpoint, cleaning and restoration contractors must ensure that setup, equipment, personal protective equipment, and work practices all mesh together into an effective process that protects both workers and the recovered items. No amount of cost savings is worth a worker's short-term injury or long-term illness. Therefore, developing a detailed processing plan before a project begins is crucial.

Developing such a plan allows an experienced consultant or contractor to lay out detailed, measurable objectives

for the project. Since there are currently no federal, state or provincial mandates for evaluating the effectiveness of cleaned contents, communication of an objective endpoint to all involved parties is key to a successful outcome. In short, know your endpoint before you begin.

To ensure that all parties understand the goals of the project, cleaning and restoration professionals should get written confirmation that the client agrees to the plan. Safety and health professionals should also work with restoration contractors to understand their capabilities so that as a team they can choose decontamination techniques that will achieve the objectives. In this way, the military adage "plan your work, work your plan" can be made a reality.

After using good judgment in a cooperative approach to selecting an appropriate cleaning process, it is the responsibility of both the consultant and the contractor to use both laboratory and field methods to verify the effectiveness of the work. In larger cases it makes sense to utilize an objective third party to document the entire process as well as the outcomes. With billions of dollars at stake and new technologies to assist with the cleaning of sewage-contaminated contents, restoration, cleaning and insurance professionals can take the lead in protecting individuals while helping to return a sense of normalcy to the lives of individuals traumatized by substantial losses. This truly is a win-win situation. ■

Michael A. Pinto, CSP, CMP, currently serves as chief executive officer of Wonder Makers Environmental, Inc. Pinto has authored three books including Fungal Contamination: A Comprehensive Guide for Remediation, over 130 technical articles, as well as 18 commercial training programs. He can be reached at map@wondermakers.com.