

JUSTIFYING EMBALMING AND APOLOGIZING FOR FORMALDEHYDE: THE NEVER-ENDING DISINFECTION, PRESERVATION, RESTORATION DEBATE IN THE FUNERAL INDUSTRY.

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In our current article, we investigate the myth and reality of the disinfection, preservation, restoration debate in the embalming trade. How the three tenets of embalming are defined and the permutations thereof with the end result being a cloaked formaldehyde apology and veiled justifications for embalming. The archaic research regarding this argument and the modern absolutist/absurdist spin on the topic is discussed. The CDC's and other medical researchers position on the topic and the funeral industry's cloaked denial of the obvious is detailed. In summary, a new definition, a new prioritized reasoning and a new path for modern embalming is presented. As always, brutal honesty, my personal opinions and cutting humor abounds. With that thought in mind, I invite you to read on.

My lungs are inflamed with The Fumes of Form-alin
With a stench we have smelled for a hundred years
My lungs gasp for breath at The Fumes of Form-alin
My eyes itch and burn and then comes the tears

My lungs want to breathe some fresh mountain air
That so gently blows through the trees
My heart palpitates and my sinuses ache
And I can't stop the sneeze
To breathe through my nose very normally
And just be cancer-free
To breathe and not gasp, like someone who is allergy-free

I turn on the fan, but the stench it lingers
I know I will breathe what I've breathed before
My lungs will be cursed
With The Fumes of Form-alin
And I'll gasp once more

-sung to the tune of "The Sound Of Music"
by the world famous FormaldaTRAPP Singers

And once more, indeed, let's hear it for tradition and good old formaldehyde. That's really the whole point - right? – keep everything the same, don't rock the boat and don't question anything that has been done for a hundred years. The only problem is all the justifications and arguments for Stone Age style formaldehyde embalming are based on misunderstanding, misdefinition, misapplication and faulty, out-of-context logic. The

result being, that the embalming trade looks silly under the bright lights of medical/epidemiological science and research. The whole embalming debate is based on faulty assumptions, starting with the very first word – disinfection.

Disinfection does not equate with embalming, it never has and it never will. You can discuss disinfection ability of certain chemicals and their use in disinfecting action on instruments, surfaces and inanimate objects, but in no way is disinfection an endpoint result or even an achievable goal in embalming. What is achievable in embalming is generalized sanitation and overall reasonable to significant reduction in infectious titres of microorganisms on a temporary basis. Disinfection, however, by strict modern definition, is not. When looked at logically, this is obviously the case. How could any corpse, regardless of how well embalmed, be documentably, essentially, near infectious microorganism free in all body tissue compartments for any specified amount of time? The answer is, it's just not possible.

This myth and misunderstanding has been perpetuated throughout the embalming industry by touting references to half-century old embalming textbooks and 40 to 50 year old research reports that used obsolete methodologies and out-of-context conclusions, that would not pass muster in the modern world of microbiological investigation. In the embalming trade, even the most comprehensive and modern of textbooks dwell on and allude to these archaic justifications and rationalizations for Stone Age style formaldehyde embalming. Even archaic, quarter-century old articles regarding formaldehyde exposures in embalming are reprinted and referenced, as if they are somehow still relevant. Sadly, these are just feel good history facts and cloaked apologies for formaldehyde to justify the pervasive "everything is just alright" mentality of the industry. And some, in the industry, wonder why we never embrace the future and always turn to the past to justify our very existence?

This concept was brought home to me at an early age when I showed up at embalming school and picked up my "modern" embalming textbook. Upon bringing it home, I was shocked to find that it was identical to the textbook that had been sitting on the shelf in my Dad's office for almost a quarter-of-a-century! Nothing, absolutely nothing had changed! Actually, his copy was better – mine was a cheaper reprinting and had a weak spine that broke in the first week. I ended up using the old edition of the textbook, his funeral compend questions and his embalming notes and sailed through the course. This embalming textbook is now pushing an astounding 50+ years old.

What profession would fail to evolve so significantly as ours? Few, if any, I think. What future heart surgeon would be presented with the same, essentially unrevised, textbook as his father used a quarter-of-a-century ago, upon arriving at medical college? Would you want your surgeon to rely on a 50-year old textbook on surgical procedures of the heart? I didn't think so. Would this medical student be referred to early articles in the *Journal Of The American Medical Association* that investigated the treatment of certain asthmas and recommended moderate cigarette smoking as a curative? No, instead, these would be read and examined as humorous, self-serving, and erroneous examples of misguided and faulty research and thinking, that the medical profession had long left in the dustbin of the past. Granted, nothing we do is life-saving surgery, but that's not an all-encompassing excuse for archaism. Unfortunately, it seems, the funeral industry is in the dustbin, can't see the way out, and spends all its time justifying why the dustbin is really not so bad anyhow.

The disinfection concept is the rationale behind the CDC stance that embalming in no way serves any public safety or health function. Millions of unembalmed corpses worldwide, in any given year, are safely disposed of by numerous means, without any impact on public health or safety and generate no documented outbreaks of disease that endanger society, the mourners, or anybody else. Obviously, corpses, in general, are not significant infectious hazards to societies and can be dealt with by simple and commonsense procedures and protocols. Even the few bizarre and rare situations that occur, such as Ebola, etc., are contained and controlled by measures that do not involve any embalming process. In fact, the invasive measures of embalming are liable to increase the risk of a fulminating outbreak, by opening up portals and compartments of infectious titre that are best left closed or sealed. Consequently, even in these instances, embalming is purposefully not done. Several medical/epidemiological researchers, in fact, recommend against embalming of bodies, and particularly bodies with highly contagious diseases (T.B., meningitis, hepatitis, etc.), as they feel the very procedures of embalming place the embalmer and the embalming environment at a higher infectious risk and no valid overall public safety function is achieved in the embalming process, anyway.

That embalming is some kind of last ditch defense against epidemics or pandemics is generally acknowledged by the funeral industry – unfortunately, this stance is completely false. This supposition is highly touted by embalmers, the embalming trade and funeral-related lobbying groups as a *prima facie* justification for archaic formaldehyde embalming and the funeral industry, in general. A recent example being the British Institute of Embalmers (BIE) rather pitiful attempt to circumvent the EU Biocide Directive and the banning of formaldehyde, by professing that archaic formaldehyde embalming is the only thing that would save the continent when the Bird Flu epidemic strikes. Sadly, embarrassingly, these overblown arguments and conclusions are rampant in the industry. Repeated references to Asian Bird Flu, anthrax, smallpox, cholera, meningitis, deadly hemorrhagic fevers and other diseases are constantly made with the inference that the embalming of corpses is somehow a firewall against the spread of contagion. The facts, however, do not support these claims and there is absolutely no evidence that any of this is true, much to the chagrin of the funeral industry.

Well, that's the story on disinfection and embalming. The fear and loathing in the funeral industry is palpable regarding this decidedly inconvenient conundrum. How do you justify archaic formaldehydathinking, 100 year-old obsolete embalming procedures, turn-of-the-19th-century undertaking, and still commune with the modern world? Simple, you play it two-faced. You play up medical/sociological research findings that seems to justify your existence and make you look good and then, throw stones or turn a blind eye to all that contradicts and undermines the built-in archaism and obsolescence in the industry. It's a pretend game, but you usually get your cake and eat it too – maybe. Some embalming fluid makers like to play this game with the CDC – picking and choosing medical findings that advocate bleach, glutaraldehyde only for disinfection of instruments, anything/everything for embalming, so why not good old formaldehyde, but when the rubber hits the road about the uselessness of embalming – it's time to pull out the hieroglyphic stone tablets, invoke the undertaking/embalming gods of yore, and pretend the issue is not resolved. Anecdotal facts and figures, absolutist/absurdist arguments, traditions and the occasional used-car salesman also help to fog the mirrors and make the FormaldaWizard look good. Was that the first right after the second left on the yellowbrick road, or the other way around? I forget – at any rate we're going to OZ.

Like, for example, with CJD cases – nothing works, so use formaldehyde anyway, bleach is dangerous with formaldehyde, but use bleach and formaldehyde anyway – any questions? I didn't think so. This is a "reductio ad absurdum" argument where everything is judged on an either/or absolutist scale with illogical

conclusions being the result. Seatbelts in cars are not 100% effective and a rope tied around your waist isn't either, so therefore, it doesn't matter what you use – nothing works anyway, right? Wrong! I will choose modern multi-point restraint harnesses anyday over a rope nailed to the floorboards. Logic dictates that a graded continuum of effectiveness be evaluated that results in your odds being improved and maximized. Of course, these classic absolutist/absurdist arguments are all just a thinly veiled formaldehyde apology that attempts to default formaldehyde to a universal "just-as-good-as" status to justify its continued use in any and all embalming situations. In addition, of course, it is mandatory that you disavow, condemn and dis/myth inform regarding any new, safer, simpler, saner, lower exposure, alternatives to Neanderthalic formaldabalming as merely propaganda or a sales scam perpetrated on unsuspecting, traditionalist funeral directors. Hey, when you phrase it like that – who would want to ever change? And that's really the whole point isn't it?

So, do the tenets of embalming make any sense at all? Is there any justifiable or advantageous results of embalming? The answer, is absolutely yes – you just have to ask the question in the correct way. For the record, embalming is not justified by the sanitizing effect – period, instead, the resulting temporary sanitizing effect is desirable and justified by the very act of embalming, itself. If temporary sanitation did not result from embalming, then, embalming would, by definition, be contra-indicated in all cases as a threat to public health and safety and not just an optional procedure performed on the dead. In fact, it is more multi-faceted than this: the results from embalming operations must enhance overall societal, individual and environmental safety, in addition to delivering a temporary sanitizing effect. If it does not, then it is disavowed as an optional, but acceptable procedure on the dead. And, consequently, herein lies all of the valid, modern and provocative arguments against embalming.

The way most of the embalming industry chooses to embalm grossly violates these guidelines and caveats. By using traditional and archaic high index/high exposure formaldehyde embalming, mixed with other nasty toxics, the embalming trade generates a carcinogenic and noxious exposure hazard to the embalmer, needless use of coverup chemicals, an environmental and disposal hazard to society, and increased infectious risk due to poor equipment and technique during the entire embalming operation. The result is a nullification of any desirable results from most modern embalming operations. No wonder embalming is viewed by modern society as needless, dangerous and ridiculous. By embalming in a traditional, neanderthal-style with large quantities of toxic, carcinogenic, and gas-evolving formaldehyde products, embalmers are essentially the embalming industry's worst enemy. And the way it looks – I wonder if we will ever change or, instead, just choose to rearrange the deck chairs on the Titanic, strike up the band and sing some uplifting songs, compliments of our Mutual Admiration Societies? What is that I see in the murky waters ahead? An iceberg? Nah!, can't be – that's impossible – The stone tablets do not lie. Full speed ahead!!

This archaic denial attitude is no better displayed than by the Mutual Admiration Societies expressed "concern and worriment" about phenol/phenolics and glutieraldehyde (oops, did I spell that wrong?) and it's safety and exposure ramifications for the funeral industry. Of course, in this china shop it is mandatory that we ignore the thousand pound gaseous, toxic, carcinogenic, mutagenic, asthmatic sensitizing elephant called formaldehyde as a justifiable necessity. Let's just hope this "necessary elephant" does not destroy the very china shop that it resides in. It appears, at least in Europe, that the harvest from this untenable, archaic attitude of denial, will be bitter, indeed. To our detriment, this self-destructive and pervasive scenario is already starting to be played out and there appears no end in sight. But, as always, it doesn't have to be this way.

The Champion Company's and my stance has always been diametrically opposed to this obsolete embalming model. The quest always was, and will always be, the search for safer and saner alternatives to all the old chemicals, the old procedures and the old equipment. To this end, Champion has made great strides with effective alternative preservatives that deliver a fraction of the exposures that formaldabalming does while upholding all the tenets of embalming. And we are not done yet – on the horizon are newer, more sophisticated and drastically reduced exposure alternatives that go beyond what is currently in use and will completely fulfill this most important of the tenets of embalming – enhanced overall safety for the operator, society and the environment with a desirable temporary sanitizing effect. The result being, an embalming that does not dejustify itself by untoward and deleterious effects of the embalming operation itself. The future is now, you need only to embrace it.

What about the other tenets of embalming – preservation and restoration? There are many rankings, analyses and permutations of the three tenets, but they all usually go something like this. Skip to the chase – embalm'em rockhard, create a stone statute that's easy to move around, probably won't go bad and is easy to paint up with greasepaint. Sanitization and safety is trivial, so forget about it, and natural lifelike appearance by heavy pancake makeup (tartin' em up?) and dim lighting will be good enough. Not too many advocate restoration as an end-all-or-be-all, but the arguments are essentially the same – make'em look presentable and everything else will probably work out, besides you can always slam the lid shut if worse comes to worse. The side corollary to this, is, of course, it's easier to paint a stone mask and be done with it, therefore, formaldehyde is, of course, justified and mandatory. All the permutations devolve to just hiding formaldehyde behind a casket veil and pretending everything is "just alright". Pass those stone tablets, if you will, please.

Casket veil, n., A cloaking or obscuring device in the form of a veil, usually gossamer, placed over an open casket to hide a multitude of sins and found in the closet of all funeral traditionalists.

Formaldaveil, n., A special type of casket veil, employed by the funeral industry to properly and dignifiably cloak the appearance and reality of formaldehyde for the benefit of traditionalist undertakers, embalmers, curious onlookers, outside troublemakers and all of polite and apologetic funeral society. Shortcomings and failings of formaldehyde are obliterated, supposition and surmise substitutes for facts and reality, and formaldehyde appears "as good as" everything else. Formaldehyde is never questioned or discussed and, properly obscured, is justified by its very existence. Everything appears gossamer fuzzy, murky, ill-defined and open to interpretation. Virtually, unanimously endorsed by the funeral industry as an effective and utilitarian device of subterfuge.

So, therefore what should be the Modem Tenets of Embalming? In my opinion, they are as follows.

PUBLIC SAFETY/ SANITATION
COSMETIC RESTORATION
TEMPORARY PRESERVATION

If embalming, an optional procedure, is to be done at all, the prime directive is – first, do no harm. Public safety therefore, takes center stage and the very act of embalming should not pose an infectious or exposure hazard to the embalmer/operator, society in general, the mourners/onlookers in particular and the environment as an endpoint of disposal/residua. The temporary sanitation effect is an additional benefit that can only moderate the infectious situation to more manageable. Cosmetic restoration, done in moderation, enhances the memory picture and the grieving process by invoking directed thoughts and emotions to the very corpse itself, to confirm the farewell and the finality of the process. Temporary preservation, the least required and the least important of the tenets, serves to reasonably and temporarily lengthen the timeline for the grieving/farewell process in modern, disconnected society to occur. Preservation serves no other purpose.

In conclusion, in spite of what is constantly touted and taught in the funeral industry, embalming is not justified by anything. Embalming is an optional process that, if performed correctly, generates desirable and justifiable results. Failure to follow the above Modern Tenets, and in their prioritized order, results in not only an unjustified embalming, but worse, a contra-indicated embalming that creates more problems than it solves. This is currently, the sad state of affairs in the embalming trade, where toxic and troublesome formaldehyde is worshipped as the end-all-and-the-be-all of embalming and the tenets are flip-flopped and rearranged to suit the embalmers whim. The result of classic formaldebombing, in its many permutations, is a top-down disavowal of the Modern Tenets where the only modicum of success is that the corpse is preserved and stays around for awhile, sometimes a longer while.

Old-fashioned equipment, poor or marginal ventilation, non-protective latex, timeworn procedures, careless attitudes, use of high index/high exposure formaldehydes in many forms, absurdities such as gasoline/chlorinated solvents/toxic sprays, petrochemical based clown makeups, chemical overdrive by necessitation of formaldehyde repair chemicals, disposal nightmares by massive amounts of chemicals and incompatibilities such as bleach, etc., absurdities such as kerosene for maggots and gasoline/hexane based dry washes, hideously appearing rock hard/dehydrated bodies that destroy the natural lifelike appearance and require painting up with greasepaint mortuary cosmetics – all combine to make the embalming process needlessly dangerous, of marginal value and ridiculous in the eyes of modern society.

By focusing on the elimination or drastic reduction of formaldehyde and other difficult to control toxics, and implementing lower exposure, higher impact sanitizing alternatives, such as glutaraldehydes/phenolics in moderating amounts, the Modern Tenets can be upheld and all desirable results of the embalming process can be reasonably achieved. This has always been the prime emphasis and goal of my tenure at The Champion Company. Easily 90%, or more, of formaldehyde can be eliminated in the drop of a hat in embalming, with no adverse effects and the result being a safer, saner, more effective embalming. The final step toward the ultimate fulfillment of the Modern Tenets is currently under active investigation and research by me, at the Champion Company.

The implementation of Chemostasis Infusion Chemicals – complex, naturally-derived, synergistic blends of higher molecular weight mono/di/multi-aldehydes/polyphenolics and associated cross-linkers/precipitants/carriers that present absolutely minimal operator/societal/environmental impacts, with an essentially clean-sheet MSDS and generating a significant temporary sanitation effect will achieve this goal. In addition,

natural lifelike cosmetic restoration is achieved and temporary preservation is more than sufficient to meet the demands of modern society. No longer will there exist incompatibilities between the embalming arts and green burials/eco-cremation/disposition and ecologically sound alternatives to problematic, archaic chemical embalming. The Fourth Generation of Champion Ecobalming Fluids is on the horizon and the very face of embalming and its societal/environmental impact will be changed forever.

Set the note as high as possible.

---Diogenes

References: The arguments presented in this article are based on many of my previous Champion Encyclopedia articles regarding, formaldehyde dangers/exposures, other ridiculous exposures and procedures in embalming and needless chemical usages, such as latex, bleach, gasoline, chlorinated solvents, toxic sprays, etc., etc. The old moldy textbooks, the obsolete research reports (Snell, etc.), the outdated formaldehyde exposure studies and the archaic commentary that accompanies them are all there for your amusement and entertainment. The revision of the Tenets of Embalming is, of course, mine. Finally, as always, embalm smart, embalm safe.