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# **“A SCIENTIFIC REVIEW OF AGENT ORANGE IN C-123 AIRCRAFT”**

## **Scientific? Oh, Really?**

By Wesley T. Carter, Chair, The C-123 Veterans Association

“Science: A body of facts and knowledge from which reasonable conclusions can be made.”

Can something from the Department of Veterans Affairs be called “scientific” if written solely to insure a group of veterans is excluded from VA medical coverage? Can something be called scientific if “researched” only to give voice to the policy requirements of the agency, and not with an even-handed attitude of “let’s see where the evidence takes us?” No...the VA didn’t want to allow the C-123 veterans to qualify for Agent Orange exposure benefits so VA set out to write a few Internet pages to give themselves a foundation for that injustice.

In this instance, C-123 Air Force veterans find it difficult to understand the “scientific review” and “investigation” to which the VA refers in their various Internet pages which deal with C-123 exposure, because those pages provide little detail and our Freedom of Information Act Request brought back the curious response that the VA insists it has no documentation dealing with the issue...and VA has even denied their own Internet pages exist.

Do you see the question raised? How can “scientific review” and “investigation” be done adequate to compel the VA to take such a severe position as to deny service connection claims, and yet VA insists there are no documents, emails, marginal notes, presentations, publications, studies, investigations, reviews, letters...nothing at all on the subject! VA’s Public Health and Post-Deployment Health experts maintain C-123 veterans weren’t exposed to C-123 dioxin because there was no “bioavailability” – and yet have no materials at all. How can VA claim to have conducted a “thorough review” without noting that there are thousands of references confirming C-123 veterans’ exposure? How can VA claim to have dealt with this issue “scientifically” and yet bar review of VA materials from peer review?

No, this wasn’t science. It was policy. Or at best, maybe “weird science” or something like that. The VA has had enough of Agent Orange-exposed veterans lined up for care and benefits to which they are entitled, and VA managers clearly want to bring this to an end. How? By pretending no other veterans were exposed, regardless of evidence to the contrary and by simply citing VA “studies” which are instead policy announcements.

But lets look into what can be found. The only examples the VA’s work on C-123 veterans’ exposure are the VA’s very few Internet pages, and limited copies of correspondence with veterans, congressional representatives, and outside experts.

So, let's first look at their Internet pages. The basic one is titled "Scientific Review of Agent Orange in C-123 Aircraft." Here VA Office of Public Health claims to have "thoroughly reviewed" existing scientific studies and says post-Vietnam War veterans' are unlikely to have been exposed at levels to affect health.

The first and most glaring issue is that none of the studies which might prove the C-123 veterans case for having been exposed are listed. Carefully, the VA selected only articles and studies they felt best destroyed the veterans' case. Ignored were countless juried articles, which we'll detail in a moment or two. Next, the VA attacked and dismissed the multitude of Air Force tests over the decades that established dioxin contamination of the C-123 fleet. "Heavily contaminated" read one report, and "A danger to public health" another. Even 29 years after their last Agent Orange spray missions the airplanes stored in the Air Force desert bone yard still showed trace to low levels of contamination of dioxin, for which any detectable levels are considered unsafe.

Therefore, to minimize or dismiss the most relevant evidence for veterans' exposure, VA simply declared the Air Force tests, completed by both commercial expert firms and the military's own toxicologists, to have been done incorrectly and in a manner that released toxins otherwise not available to expose the aircrews. Dismissed was the fact that the tests were completed by highly reputable experts with doctorates in the field, and that the tests were done using well-established standard procedures called hexane wipes. In tests completed in the 2000-2009 time frame, water wipes were also used with similar results, so the VA ignores these results so as to better focus on the hexane wipes which they then dismissed to provide a basis for trashing all the contamination test reports.

Having constructed such a barrier around the confirming evidence, VA then turned to a claim to have consulted peer-reviewed literature. The first thing that stands out is the age of some VA references, ranging between ten to thirty years old. The next observation is the name of Al Young, infamous among Agent Orange victims for his career spent developing military applications for Agent Orange, and also for his decades spent claiming Agent Orange is harmless to humans. Young's article cited by the VA was actually his claim that Vietnam veterans weren't exposed and if they were, such exposure would allow little bioavailability. This point, and ones made subsequently in Young's article, form the basis grasped by the VA to deny C-123 veterans' disability claims,

Importantly, Young claims that actually no veterans were "exposed" or had "bioavailability" other than the crews actually handling or having direct contact with liquid herbicide. Of course, the National Academy of Sciences Institute of Medicine challenges this and Young's position is not at all the generally accepted view among toxicologists and epidemiological scientists, but it provided VA something to wave as its "proof."

Al Young has another point of contact regarding C-123 veterans. In 2010 the Air Force needed to resolve storage concerns about contaminated C-123s in storage. Young's input was sought and he recommended immediate destruction of the airplanes and reminded Air Force leaders that unless the destruction was done quietly, veterans might learn of the contamination and their exposure in earlier years, and seek medical care for their Agent Orange illnesses.

Again that important point – these veterans had already been exposed and Young's official recommendation made as the Senior Agent Orange Consultant to the Office of Secretary of Defense, was to quietly destroy the toxic evidence before the veteran/victims learned anything. Young's advice was repeated along the Air Force chain of command and provided the "final solution" for these toxic, aged warplanes in 2010 as they were shredded and smelted into aluminum ingots.

Young's advice was certainly NOT that of a neutral, independent observer in any of his activities. Referring to the C-123 veterans again, Young described them as "trash-haulers, freeloaders looking for a tax-free dollar from a sympathetic congressman. I have no respect for them." Young is well-known among veterans for his persistent insistence that Agent Orange causes no harm, a position he has espoused for decades as one of the principal architects of the use of the toxin in the Vietnam war.

C-123 veterans, most of whom (unlike Young) saw combat in their flying careers, and indeed, like any scientist considering Young's writings, cannot accept any conclusions from this man who flaunts such a tainted, one-sided perspective about the veterans he writes about.

What about the other references cited by the VA? Veterans managed to locate Professor (now Emeritus) L.W. Weber at Oregon State University, but Dr. Weber stated his study had nothing to contribute to any understanding of aircrew exposure and asked it not be used in that context.

Another reference cited was written by Dr. Linda Birnbaum, who is famous in the field of dioxin research, and now Director, National Institutes of Health/NEIHS and Director, National Toxicology Program. Dr. Birnbaum in recent years reviewed the Air Force test reports and other contemporary studies such as Technical Guide 312 from the Department of Defense, and has concluded that the C-123 veterans actually were exposed! So that has left the VA citing Dr. Birnbaum's article to support their pretense veterans weren't exposed, yet Dr. Birnbaum herself states veterans were indeed exposed!

The last element of the VA's "scientific review" was the Air Force School of Aerospace Medicine C-123 Consultative Letter released May 2012. Here the Air Force basically disowned its own decades of testing and posited that C-123 crews were unlikely to have

been exposed. This report has received very close scrutiny from scientists such as Dr. Birnbaum and others, who fault it for the basic claim of unlikely exposure yet also the Air Force claim that they didn't have enough information or data to make any conclusion. So how could a conclusion be reached that veterans weren't exposed when the Air Force admits not having enough data to make such a conclusion at all? A paradox...or a muddled attempt to blend USAF and VA perspectives.

Continuing examination of this Consultative Letter led to the Air Force Surgeon General stating that it must not be used by the VA to deny benefits to any veteran! Challenges to the Air Force C-123 Consultative Letter continue from many corners, including the National Institutes of Health and even the Air Force itself, and leave the whole issue an embarrassment for the Air Force and its earlier reputation for scientific integrity, earned over the decades by its famous USAF Armstrong Laboratories.

Now let's examine the errors of the VA's own "Scientific Review of Agent Orange in C-123 Aircraft" point-by-point. It might be helpful while considering this to have first downloaded and printed the article, easily Googled using that title.

1. "may be detected by sophisticated laboratory techniques many years after its use" reads the report.

How deceptive! VA implies that only use of "sophisticated equipment" permits dioxin on these airplanes, yet standard equipment by qualified technicians are all that's required...and that's exactly what was done over the decades in which C-123 aircraft consistently tested positive, and "heavily contaminated" with Agent Orange. VA was also deceptive in using the word "may" when in fact, the proper word should be "was". "May" in scientific reports implies only a possibility, or a vagueness or basic "less likely to than now" but the actual record with C-123 Agent Orange exposure reads WAS DETECTED! And "residual TCDD," regardless of being residual or whatever was meant by that phrase, is still TCDD.

Finally, VA states that the available reports and studies lead their own Public Health officials to conclude there was a "low probability" of exposure. This was their objective, and so they marched towards it, as was their plan in the first place. Clearly, VA spent much more time with their clever wording of this Internet page than they did actually studying the potential for C-123 claims having any validity! No effort was made to weigh pro and con evidence...as only VA evidence was admitted.

2. The next point in the VA sheet is "unlikely to have occurred at levels that could affect health." Here they have no foundation for the statement other than Young's tainted views. In fact, other federal agencies such as the Agency for Toxic Substances and Disease Registry and the National Toxicology Program and the US Public Health Service disagree and opine C-123 veterans' health is affected.

ATSDR even states these veterans have a 200-fold greater cancer risk than the screening value! And in any case, the 1991 Agent Orange Act and other requirements only read "exposed" with no mention of levels, colors, flavors, kinds, bioavailability - nothing other than a statutory requirement to establish exposure. Incidentally, bioavailability of dioxin

by dermal route is 3% according to ATSDR, compared to 87% for inhalation...lower, and with dioxin, "it all adds up."

And the VA here agrees that inhalation of dust particles to which dioxin had become bound is at least a "low probability" – which other, more independent scientists maintain to be a high probability.

3. Regarding routes of exposure, veterans, and non-VA scientists who have evaluated the situation, claim dermal, inhalation and ingestion routes of veterans' exposure. VA dismissed inhalation of TCDD as an aerosol, yet dioxin binds readily to dust, which was ever-present. VA dismissed dermal exposure but there is a plethora of articles (none cited by the VA which ignored them all) expressing scientific agreement for the skin being a likely exposure route and both the Army and Air Force use dermal exposure models. Here VA uses more deceptive wording, stating that a solvent (hexane) was required to dislodge the dioxin in tested airplanes.

In fact, hexane is the standard wipe test used in all such situations – for instance, it would be used today at Wal-Mart, at the Post Office, an airplane, the local high school, or at any other setting where a surface contaminant needed to be studied. Further, testing by the Air Force and contracted laboratories done between 2000 and 2009 used both hexane and water wipes with similar confirming results.

4. The VA claims it will continue to review new findings relevant to this issue as they become available. Many indeed have become available, including recent expert opinions confirming C-123 veterans' exposure from a large number of other agencies, universities and independent medical and scientific experts. Ignored by the VA, or grouped by them in what they call "unacceptable lay evidence" are the following:

A: Dr. Jeanne Stellman, Professor Emerita of the Mailman School of Public Health, Columbia University. "Veterans were exposed."

B. Dr. Fred Berman, Director Toxicology Program, Oregon Health Sciences University. "Veterans were exposed."

C. Captain (Dr.) Aubrey Miller, US Public Health Service, Senior Medical Advisor to the National Toxicology Program. "Veterans were exposed."

D. Dr. Arnold Schechter, Professor of Medicine, University of Texas Medical School. "Veterans were exposed."

E. Dr. Linda Birnbaum, Director, National Toxicology Program and Director, National Institutes of Health/NEIHS. "Veterans were exposed."

F. Dr. Christopher Portier, Director, CDC/Agency for Toxic Substances and Disease Registry. "Veterans were exposed."

G. Dr. Wayne Dwernychuk, Chief Scientist Emeritus, The Hatfield Group Environmental Consultants. "Veterans were exposed."

H: EPA – "concur with ATSDR" re: veterans were exposed

It strikes the observer that here, that so many conclude veterans have been exposed. None of these agencies have policies about exposure one way or another, and none of the persons providing opinions was paid to do so, unlike the VA staff assigned to prevent veterans claims from being accepted.

But, there's still much more. In other VA Internet pages about the C-123, they claim to have "thoroughly reviewed all available scientific information." Ignored, however, was every opinion, findings and other document that would have supported the veterans' claim for exposure, such as the standard guide for surface contamination, Technical Guide 312, considered the gold standard in this field. Other experts, using TG312, conclude C-123 veterans were indeed exposed. So the VA ignored it. Ignored, also, were publications like the CDC Dioxin Bulletin "Current Intelligence Bulletin 40" which made clear dermal dioxin exposure was happening to the veterans. Ignored, like hundreds of other scientific and medical challenges to the VA prejudice against the C-123 veterans.

Perhaps the VA, dedicated to preventing consideration of C-123 veterans claims for dermal dioxin exposure, did not favor the CDC observation that exposure was possible by simple contact, or the CDC observation that both water and hexane wipes are appropriate surface testing procedures. Nope...the CDC bulletin and other such publications do nothing to support the VA position and everything to support that of C-123 veterans, so the VA authors of "A Scientific Review" obviously felt it best to be ignored...consulted perhaps, but only to be ignored and never officially mentioned once it worked against the VA case.

Google Scholar and other Internet search engines, especially those focused on medical issues, provide more than enough support for the C-123 veterans' claim for dioxin exposure, so VA avoided mentioning them. In particular, to make sure dermal exposure was eliminated as a route of dioxin harming the veterans, even though most peer-reviewed scientific articles, such as dangers of inhalation, ingestion AND dermal exposure. You can do it yourself...Google "dermal dioxin exposure" and you'll see articles from EPA, NIH, foreign governments, state governments, commercial laboratories...the list is so very long...long and ignored by VA authorities veterans had foolishly expected to go where the science led them!

Speaking of lists, a truly resourceful observer might want to compare the CVs of the scientists who have confirmed C-123 exposure with those who in the VA deny exposure of the veterans. It would be interesting to compare, but the CVs of the VA writers are virtually invisible in academia and science.

Further, but totally ignored by the VA writers, dioxin articles frequently stress the fact that dioxin accumulates over time, and long-term exposure is more harmful than short-term, because the body can't rid itself of the toxin fast enough before reintroduction by re-exposure. Why is this important to C-123 veterans? Because these aircrews, flight nurses and flight mechanics flew the C-123 for ten years. Not only flew it, but the crews ate in it, repaired it, loaded and unloaded, slept aboard during tactical deployments (so much more comfortable than some Army tent in the dirt alongside a runway!) Exposed and re-exposed, for a full decade.

In November of 2012, sixteen concerned physicians and scientists joined Dr. Jeanne Stellman of Columbia University in bringing their professional concerns about the scientific basis for VA decisions regarding C-123 veterans exposure to military herbicides. Writing Undersecretary for Benefits Allison Hickey, they explained problems with the VA approach denying dermal absorption, because dermal exposure to dioxin is well-proven and indeed skin absorption is a primary occupational route of exposure. In general, this respected group dismissed the entire VA policy prohibiting C-123 veterans exposure claims.

“Unfortunately,’ they wrote, “the VA Public Health Office, in turn, bases its conclusion on several erroneous assumptions about routes of entry of dioxin to the body, as well as other scientific misapprehensions.” “We have carefully examined ‘Scientific Review of Agent Orange in C-123 Aircraft’ and find it seriously flawed. We feel obliged to point out the scientific shortcomings in the VA appraisal.”

Mr. Thomas Murphy of the VA’s Compensation Service rejected their letter on behalf of Undersecretary Hickey. Noted for his denial of a veteran’s Agent Orange claim because, as Mr. Murphy wrote (and maybe even actually believed, given his professional background is not in medical issues but as an executive at Home Depot), “no long-term harm has been shown to be caused by TCDD,” (TCDD is the toxin element of Agent Orange). The scientists were told that VA stands by its C-123 position, regardless of however many university, independent expert or other federal agencies saying otherwise – VA Public Health had already predetermined C-123 veterans to not have been exposed. No proof to the contrary was acceptable.

Clearly, however, C-123 veterans have firmly established the validity of their Agent Orange claims to the satisfaction of the medical and scientific communities, and to the satisfaction of other federal agencies as well...including those with the statutory responsibility for making the call about the exposure! We earned combat pay for going to war in our airplanes over the decades we flew for the Air Force, but we didn’t know we should also have asked for “Agent Orange Exposure Pay” for that hazard over the years we flew the toxic C-123!

The C-123 veterans don’t need any new laws or regulations, because we are fully qualified to receive VA medical care under the 1991 Agent Orange Act, various CFRs and in particular, the 8 May 2001 Federal Register in which VA explains that non-Vietnam veterans who were exposed to military herbicides will be treated the same as the Vietnam veterans. Either VA has opted to ignore this or has ruled that C-123 veterans are uniquely exempted from the protections of the law.

No part of the VA “Scientific Review of Agent Orange in C-123 Aircraft” can be considered science. The writers, having culled out from their references any publication which might argue for the veterans’ claims, merely produced a one-sided policy statement which would never be accepted in a peer-reviewed journal. The VA writers



involved did nothing to enhance their professional reputations with this exercise! VA produced a product contributing nothing to science and upon which no other scientist should ever rely. And the VA knows it.

We need your help. Your senators and congressional representatives need to contact Mr. Brooks Tucker of Senator Richard Burr's staff. Senator Burr has taken the lead on this bicameral and bi-partisan issue with Mr. Tucker doing the hard work. Ask your representatives to insist to the VA that our veterans need only one thing from that agency – that it follows the law!

A hard copy of this discussion can be downloaded at [www.c123kcancer.blogspot.com](http://www.c123kcancer.blogspot.com), including hotlinks to cited references.