

The Truth About The Recent IARC Report

by Patricia E. Reykdal and Donald L. Smith, 09/11/2009

The damaging and widespread headlines stating that tanning beds are “as deadly as arsenic or mustard gas” actually had nothing to do with the fact that the International Agency for Research on Cancer (IARC) changed their classification of tanning devices from Group 2A (presumed to be a human carcinogen) to Group 1 (known to be a human carcinogen).

The IARC in no way proclaimed tanning equipment to be as deadly as arsenic or mustard gas—all the association did was bring their classification of UV-emitting tanning devices into line with the decision by the U.S. National Toxicology Program (NTP) in 2000 to classify all ultraviolet-radiation-related exposures—including tanning lamps and equipment, broad-spectrum UVR and sunlight—as known carcinogens.

The article, “Special Report: Policy—A Review of Human Carcinogens—Part D Radiation,” which was written by a group of IARC scientists and published in the August 2009 issue of *The Lancet Oncology* journal, was a straightforward statement of the reasons why the IARC believes that a number of things that fall under the category of ionizing radiation (such as alpha-particle emitters, beta-particle emitters, X-rays, gamma rays and neutron radiation) and non-ionizing radiation (such as solar radiation and UV-emitting tanning devices) should be upgraded to Group 1 status.

Let’s take a look at what the IARC and NTP have to say about the items that are classified under the Group 1 heading. (Note: Italics were added by authors of this article to emphasize key points within the statements.)

“The ‘Report on Carcinogens’ is an informational scientific and public health document that identifies and discusses agents, substances, mixtures or exposure circumstances *that may pose a carcinogenic hazard to human health*. It serves as a meaningful and useful compilation of data on (1) the carcinogenicity, genotoxicity and biologic mechanism of the listed substances in humans and/or animals, (2) the potential for exposure to these substances and (3) the regulations promulgated by federal agencies to limit exposures.

“*The report does not present quantitative assessments of carcinogenic risk. Listing of substances in the report, therefore, does not establish that such substances present carcinogenic risks to individuals in their daily life.*”

“As stated above, the ‘Report on Carcinogens’ is a cancer health hazard identification document. *Therefore, it is not within the scope of this report to address potential benefits of exposures to certain carcinogenic substances in special situations.*”

So, there you have it. A listing of an “agent and groups of agents, substances, mixtures and exposure circumstances” by the IARC and NTP means that listed items may be carcinogenic to humans—but it does not specify the dose required for the listed item to be a human carcinogen and it does not disclose whether or not the listed item might also be beneficial to humans.

Now we will look at what that stipulation means in the real world in regard to a sampling of items that the IARC and NTP have listed as known carcinogens.

The drug Tamoxifen. The risk of this agent causing cancer is outweighed by the fact that it has been proven to be beneficial to a high percentage of women with contra-lateral breast cancer.

Oral contraceptives. The risk of this agent causing cancer is outweighed by the fact that it has proven to be beneficial in preventing unwanted pregnancies.

Alcoholic beverages. The risk of this mixture causing cancer is outweighed by the fact that sensible and moderate use of alcoholic beverages has been proven to be beneficial to human health.

8-Methoxypsoralen plus UVA radiation (PUVA). The risk of this agent causing cancer is outweighed by the fact that it has proven to be beneficial in treating psoriasis.

Solar radiation and UV-emitting tanning devices. The minimal and manageable risk of this exposure circumstance causing non-melanoma skin cancer is significantly outweighed by the fact that UVR exposure is not only beneficial but also is necessary to sustain human life. In fact, this listed item is the only one that is necessary in order to sustain human life and, inexplicably and unacceptably, neither IARC nor NTP mention this important fact.

Now, let's get back to the topic of the inflammatory headline that accompanied the release of the IARC report. Tanning beds were said to be as dangerous as arsenic and mustard gas—it is interesting to note that neither of those agents have any beneficial properties, unlike UV exposure. Arsenic has been used throughout history as a poison and, although mustard gas was used in World War I, it is now banned for military use. So, why was the connection made?

It didn't come from the article bylined by Maria Cheng, a medical writer for the Associated Press (though most of the publications credited Cheng for the news). The headline of her document was, "Study: Tanning Beds Definitely Cause Cancer." Some of the publications that first broke the news also used that headline; however, it wasn't long before the media grabbed hold of the statement comparing tanning equipment to arsenic and mustard gas. And it was those words that set the world-wide anti-indoor tanning firestorm in motion.

Unfortunately, as of press time, that is all the information we have. Needless to say, we will continue searching for why the media began using the overly dramatic comparison and we will report our findings in a future article.

In the meantime, use this article to provide your clients and your local media with factual information about the "agents and groups of agents, substances, mixtures, and exposure circumstances" that are listed as "known to be human carcinogens" by the IARC and NTP. Fair-minded individuals will agree that listings such as solar radiation, UV-emitting tanning devices, Tamoxifen, oral contraceptives, PUVA and alcoholic beverages—which have been shown to have beneficial effects—cannot be compared to listings such as arsenic and mustard gas, which have no beneficial effects.

The bottom line is that moderation is the key to a healthy and happy life. Horace, a Roman poet, once said, "There is a proper measure in all things, certain limits beyond which and short of which right is not to be found." That statement rings true in regard to ultraviolet radiation (UVR) exposure: It is important to avoid both overexposure and underexposure. And that can best be achieved through tanning equipment, which is the ideal source of controlled ultraviolet radiation exposure.

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