

Editor's Note:

It was after my encouragement that Rich Stein prepared this article on Survivair's new product, MaskAirAide™. From a historical perspective appearance has been used in the past to make respirators appear less ominous and almost appear like fun to use. Respirator appearance is a subject worth accenting, judging from some of the existing equipment. The Mickey Mouse Respirator in Figure 1, I understand was developed in the U.K. during World War II to provide children with respiratory protection. The current product line introduced by Survivair extends this concept into the 1990s with the possibility of many additional applications. For future respirator development, respirator manufacturers may wish to consider additional visual enhancement of their final product. The real question at hand, however, is which MaskAirAide™ model best represents your feelings when wearing a respirator?

James S. Johnson



MaskAirAide™—Frivolity with a Purpose

by Dr. Richard Stein

Browsing through the ISRP Journal, one theme stands out—respirator research and product development is a sober and solemn affair. Those of us in the respirator business assume that respirator research, development, and use are no laughing matter. When one's concern is for a person's health, one does not make jokes. This is not something to poke fun at. Or is it?

Who decided that only the logical left brain could be engaged on the august subject of respirator safety? And who made it a law that there is only one way to design respirators? Do we believe that respirator design is never-changing because "they have always been designed that way"? Have we fallen into the trap of taking ourselves too seriously?

In our discussions, international meetings, and critical peer-reviewed articles, we have forgotten the one area that counts the most in respirator protection—the end user. The typical user may not attend our meetings, read our journal, or fully

appreciate the crucial impact of probe design on in-mask sampling. That user knows only one thing for sure—it's another work day and he/she doesn't want to wear that "thing" over his/her face. No one in their right mind jumps out of bed in the morning and shouts for joy because they can't wait to wear a respirator for eight hours. People wear respirators because they understand they are necessary for their health, and because they have been told to wear them or find another job.

Given that respirators are a necessary evil, why not change the *psychology* of wearing them? Why not devise something that engages the creative, playful right side of the user's brain to make the respirator wearing experience tolerable? In other words, get serious about having fun.

Once our engineering staff shifted their thinking to include the right sides of their brains, some amazing ideas started to pop out (many of them best left unsaid here, lest you think we should be

committed). But once radical ideas became **acceptable**, it was clear that the needs of end users were very different from the needs of purchasing agents, industrial hygienists, or researchers. Users might require certain intangibles from their **respirators**—things like camaraderie, teamwork, and fun. Needs and desires beyond the utility of the respirator may bear upon the experience of wearing it. If we don't address those needs and desires, then the mask may not be worn, no matter how much technology went into the design of the mask seal, exhalation valve, or cartridge connector. The best fitting mask has a program protection factor of 1 if it is not worn.

In the midst of these revelations, we were presented with a unique need unrelated to *wearing* a respirator, but related to the *image* of wearing a respirator. It had to do with hospitals and children. In hospitals, more and more health care workers are required to wear respirators because of infectious diseases. In those environments, young patients are frightened by health care workers wearing masks—the very health care workers who should be nurturing them through the healing process. Not



Figure 1. *Mickey Mouse* respirator.

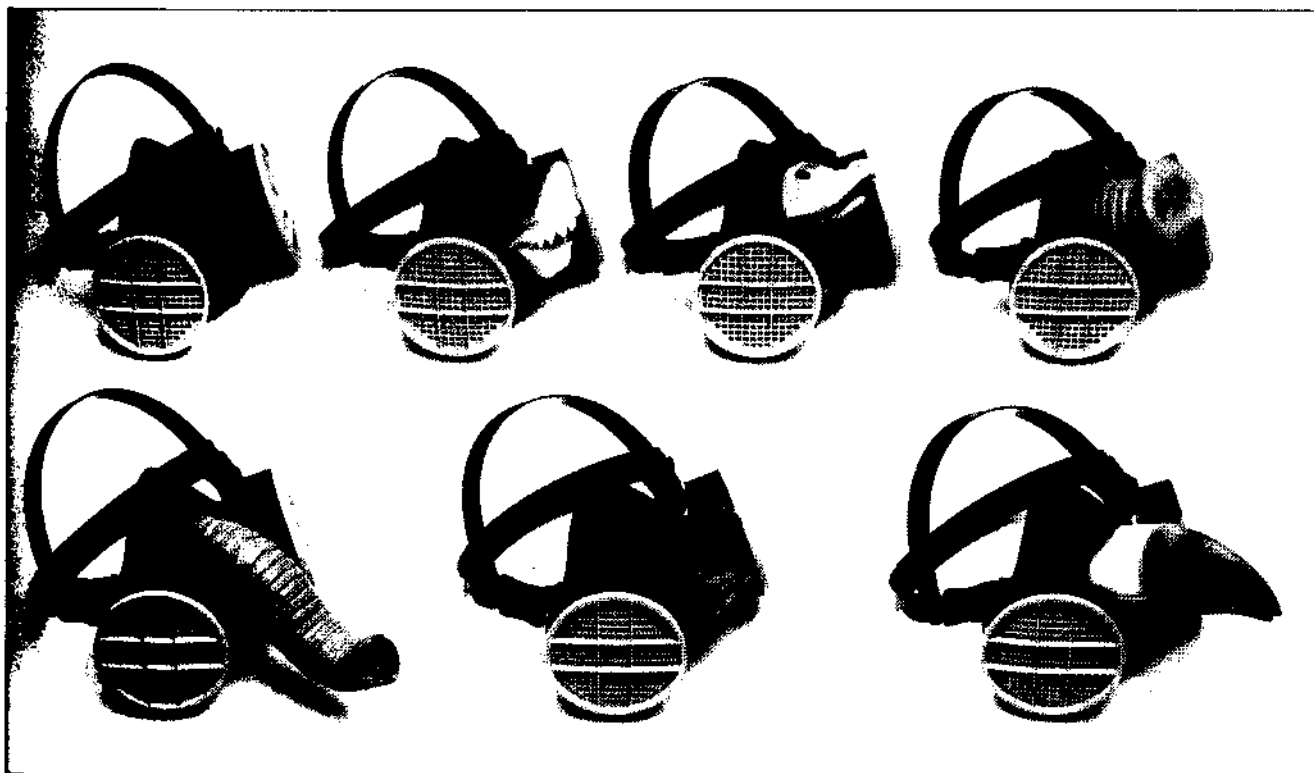


Figure 2. Examples of **MaskAirAide™** respirators.

exactly the traditional situation research engineers face when dealing with respirator design.

With these new perspectives on user needs in mind, MaskAirAide™ was invented. One look at the pictures accompanying this article tells you what we developed. Is it safety equipment masquerading as party masks? Or is it a way of encouraging a sense of team play and fun around the work site? Could it be a way to relieve the fear of a child in a hospital? Could it change a negative image of respirators into, if not a positive one, at least a neutral image? Could it ultimately be a way to keep the masks where they belong—on the faces of the users and not in their pockets?

Uses for MaskAirAide™ respirators are limited only by your imagination (go ahead, let the right side of your brain loose for a few minutes). Fit testing: want to be a shark? No, you look more like a dinosaur. How about the first shift dogs versus the second shift ducks? Children looking forward to the

elephant walking in. It is no longer just another Tuesday on the pediatric ward, it is Toucan Tuesday . . .

The point of all this is to challenge your imagination, and as the saying goes, do a little "out of the box" thinking. We know how a mask works. We have beaten that subject up for the past 20 years. Now it is time to figure out how to get people to wear them. Force of law is one way, and there is ample evidence of how well that works. While we all know that a respirator is not a fashion accessory, perhaps using a little creativity in making them more "user friendly" will make their use more natural (and, yes, even attractive!) among those we are trying to protect. Let us spend a little more time and energy on having some fun and meeting user needs, and a little less time on arcane statistical reviews of protection factors. Unnecessary exposure to potentially harmful environment may often be a function of psyche, not science.