

Home apnea checks: Caveats for infants

Monitors that track a baby's breathing patterns and heart rate have been used at home by an increasing number of parents in the past decade, largely because of fears that children with higher-than-normal levels of apnea — periods of interrupted breathing — are at high risk for sudden infant death syndrome (SIDS). But researchers have not demonstrated a link between prolonged apnea, which is thought to occur more often among premature babies, and SIDS, and in many cases home monitoring may not be appropriate, according to a National Institutes of Health consensus panel report issued last week.

The routine use of monitors for babies with a sibling who was a SIDS victim is also not recommended by the panel.

"Home monitoring is appropriate for babies who have had a life-threatening episode [characterized by some combination of apnea, marked pallor and limpness, choking or gagging]," says panel chairman George A. Little of Dartmouth Medical School in Hanover, N.H. "But many times it's hard to tell if infants die *with* apnea or *of* apnea."

Apnea's role as a precursor of SIDS has been questioned before (SN: 9/8/84, p.152). But the 13-member panel reviewed data from the United States, England and Scandinavia and concluded that no definitive studies have been conducted on whether apnea is a risk factor for death, including SIDS.

About 2 out of 1,000 babies born in the United States die of SIDS, most of them between the ages of 2 months and 4 months. The great majority of infants who succumb to SIDS had not been identified as being "at risk," says panel member John G. Brooks of the University of Rochester (N.Y.) School of Medicine and Dentistry. At most, he estimates, 7 percent of SIDS victims had a previous life-threatening experience that clearly called for home monitoring.

There is a considerable lack of knowledge, notes Brooks, about how well home monitoring devices are able to detect apnea, whether the devices actually prevent deaths and how well parents cope with the stress of having a child on a monitor. Nevertheless, there are an estimated 40,000 to 45,000 home monitors in use, and 10,000 to 15,000 new monitors are manufactured annually.

The devices do not pose health hazards to babies, says Little, but there have been no standard criteria for when to use them. In addition, the relative merits of different devices have not been established. Some monitors assess breathing patterns by tracking changes in the flow of an extremely low electrical charge passed through rubber pads on a baby's

chest; the same pads are used to chart the heartbeat. Another type of monitor relies on sensors placed at the nose and mouth to measure breathing.

"If the criteria in the consensus panel report are applied by physicians," says Little, "I'd anticipate a significant drop in home monitor use for infantile apnea."

—B. Bower

Financing Superfund

Senate and House negotiators last week produced a compromise package providing \$9 billion over five years to finance a new Superfund program for cleaning up toxic-waste dumps. This action comes two months after negotiators arrived at a preliminary agreement covering everything except funding (SN: 8/9/86, p.86).

While the original Superfund program was financed entirely by a levy on chemical feedstocks, the new scheme also includes a special, broadly based tax on corporate earnings, a surcharge on crude oil and \$1.25 billion from general revenue. A special \$500 million fund generated by a new tax on motor fuels is earmarked for cleaning up leaking underground storage tanks.

The Senate overwhelmingly approved the compromise legislation last week, and the House was expected to follow the Senate's lead this week. However, because the new program includes a corporate tax affecting a wide range of industries and exceeds the \$5.3 billion level that the administration prefers, President Reagan is said to be considering vetoing the bill.

If Reagan were to veto the bill while Congress was still in session, both the Senate and House would probably override the veto. However, if a President fails to sign a bill during the last 10 days of a congressional session, then the legislation dies automatically, and the whole process must begin again. Some members of Congress are trying to ensure that the present session lasts long enough to prevent the President from taking the latter course.

While Congress and the administration continue their battle over how to finance an expanded Superfund program, the Environmental Protection Agency (EPA) has started to cut back its cleanup efforts. The original Superfund law expired a year ago, and since then, Congress has periodically provided emergency funding to keep the program going (SN: 3/22/86, p.185). However, those funds are again nearly gone.

"Virtually no new work has been started for months," says Lee M. Thomas, EPA administrator. Furthermore, EPA's emergency response program has been operating "at a drastically reduced level." —J. Peterson

Patent Office: New rules for 'secrets'

Since 1951, the U.S. Patent and Trademark Office has been able to impose a secrecy order in instances where disclosure of an innovation might be "detrimental to the national security." Roughly 500 of the 121,000 patent applications filed with the agency each year receive such a classification. In such cases, no patent is issued and only permit-authorized publication or disclosure of the innovation is allowed unless and until the Department of Defense (DOD) lifts the secrecy order it had the Patent Office impose.

Beginning this week, however, two less restrictive types of secrecy orders are being added to the Patent Office's arsenal of controls for militarily critical inventions, such as new computer technologies.

One states that government contractors already authorized to use and hold classified information may develop — and share with potential co-developers — innovations placed under this secrecy order, as long as all of those involved follow DOD's rules for safeguarding classified information. The other secrecy order not only allows the development of an affected innovation for marketing domestically, but also permits the inventor to apply for patent protection on it in 15 foreign countries — mostly members of the North Atlantic Treaty Organization.

In the past, use or sharing of information under a secrecy order required the burdensome acquisition of "special permits," explains Kenneth L. Cage, director of the Patent Office's secrecy controls branch. These new secrecy classes, he says, have been designed to eliminate much of the red tape involved in obtaining limited exceptions to the publication ban.

However, loosening the restrictions associated with some of the agency's secrecy orders may also broaden the scope of technologies for which a secrecy order can now be justified, according to Stephen Gould at the American Association for the Advancement of Science's Committee on Scientific Freedom and Responsibility, in Washington, D.C. Gould worries that these new controls may be applied to innovations that previously would not have drawn a secrecy order. He says this could encourage inventors to treat more of their new ideas as trade secrets, in order to avoid having a secrecy order placed on them. Instead of loosening controls, Gould says, the changes might further restrict the free flow of scientific communication.

Cage disagrees, saying few of the cases subject to secrecy controls by his office would likely have escaped other agencies' export- or publication-control laws.

—J. Raloff