

TABLE 23.7
Effect of Shower on Different Types of Removal at Four Hours

Compound	Absorption (%) after Shower ^a		
	Arm	Forehead	Palm
Malathion	8.8 (12.1)	32.7	7.2
Parathion	16.5 (9.0)	41.9 (27.7)	13.4 (7.7)
Baygon	9.9 (15.5)	20.5	8.7

^a Values in parentheses: after washing.

malathion, parathion, and Baygon are in [Table 23.7](#). The shower was no more (and perhaps less) effective than the local application of soap and water. Showering does not appear to be a solution to the problem.

23.4 TRADITIONAL SOAP-AND-WATER WASH AND EMERGENCY SHOWER

In the home and workplace, decontamination of a chemical from skin is traditionally done with soap-and-water wash; some workplaces may have an emergency water shower. It has been assumed that these procedures are effective, yet workplace illness and even death occur from chemical contamination. Water or soap-and-water washing may not be the most effective means of skin decontamination, particularly for fat-soluble materials. This study was undertaken to help determine whether there are more effective means of removing methylene bisphenyl isocyanate (MDI), a potent contact sensitizer, from the skin. MDI is an industrial chemical for which skin decontamination using traditional soap-and-water washing and nontraditional polypropylene glycol, a polyglycol-based cleaner (DTAM), and corn oil was done in vivo in the rhesus monkey over eight hours. Water and soap-and-water (5% and 50% soap) washes were partially effective in the first hour, removing 51% to 69% of the applied dose. However, decontamination fell to 40% to 52% at four hours and 29% to 46% at eight hours ([Figure 23.10](#)). Thus, the majority of MDI was not removed by traditional soap-and-water wash; skin tape stripping after wash confirmed that

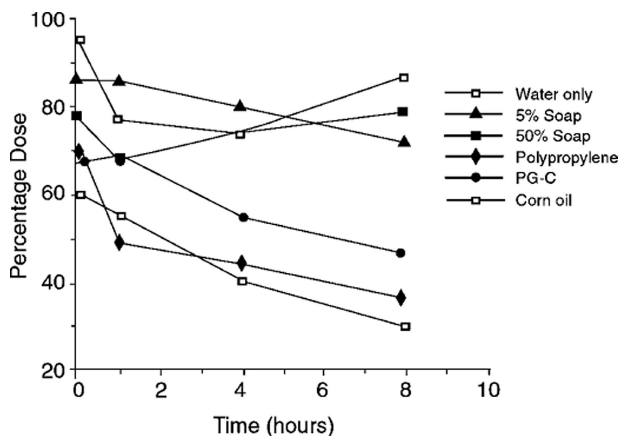


FIGURE 23.10 Mean percent applied dose of methylene bis phenyl isocyanate (MDI) removed with designated decontamination procedure at designated time period. Water and soap-and-water are the least effective, especially at four and eight hours.