Gd-based contrast agents should not be routinely administered to pregnant patients. The decision must be made on a case-by-case basis by an MR Radiologist who will assess the risk-benefit ratio for that particular patient.

See *MR Contrast and Pregnant Patients* on Page 32.

PEDIATRIC MR SAFETY CONCERNS

Sedation and Monitoring Issues

Children are the largest group of individuals requiring sedation for MR because of their inability to remain motionless during scans. For the neonatal and young pediatric patients, body temperature, and other vital signs must be continuously monitored.

Pediatric Screening Issues

Children (especially in cases of older children and teenagers) must complete the screening process in the presence of parents or guardians and separately to maximize the potential that all potential dangers are disclosed. As with adult patients, they should be gowned in Zone II to help insure that no metallic objects, including toys, inadvertently find their way into Zone IV. Because pillows, stuffed animals, and other "comfort" items brought from home represent risks, these items should not be allowed in Zone IV. However, if unavoidable, an MR technologist should check each item carefully with a powerful handheld magnet or a ferromagnetic detector to ensure that it does not contain any objectionable metallic components.

MR Safety for Accompanying Family or Other Non-MR Personnel

Although any age patient may request that someone accompany him/her during the MR exam, this is common for pediatric patients. In general, only one adult should be allowed to accompany the patient.

Those accompanying or remaining with the patient must undergo the same screening process as anyone else wishing to enter Zones III and IV. (Note, however, that no screening x-rays are performed on individuals who wish to accompany the patient.) In addition, hearing protection must be provided to and utilized by individuals who remain in Zone IV during the procedure.

PATIENT COMMUNICATION

Many factors contribute to the stress level of a patient about to undergo an MR procedure. Sensations of apprehension, tension, worry, claustrophobia, anxiety, fear, and panic attacks have been directly attributed to the confining dimensions of the MR system. Even patients not normally claustrophobic may find the experience unpleasant. Similar distressing sensations have been attributed to the prolonged duration of the examination, the acoustic noise, the temperature and humidity within the MR system, and the stress related to restriction of