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Magnetic resonance imaging is considered to be a reasonably safe diagnostic assessment tool. This only holds true when safety precautions are followed. When an oversight does occur the result can range from minor injury to irreparable harm to either the patient or personnel working close to the scanner. One such complication associated with magnetic resonance imaging is thermal burn injury.

A 12 year old patient was admitted secondary to weeks of intermittent fevers and rash. The patient had a complex medical history that included a diagnosis of William's syndrome. Manifestations of the syndrome in this patient included supravalvular aortic stenosis, hypertension, impaired cognition and severe anxiety. Co-existing problems included cyclic vomiting syndrome and feeding dysfunction that required total parenteral nutrition. Her hypertension was difficult to manage and she was scheduled for an MRA/MRI of the kidneys to rule out renal artery stenosis, a possible complication secondary to William's syndrome. Due to her complex medical history general anesthesia was determined to be the safest route. A careful inhalational induction was performed. Prior to entrance into the scanner, as per protocol, the patient and her clothing, which consisted of a hospital gown and an ace bandage, were superficially inspected for any metal or conducting objects. The ace bandage was wrapped around her chest and back covering her central line. This had been done to prevent the patient from continuously picking at it. A hand-held ferromagnetic detection instrument was used to confirm the absence of metallic items. The MRI scan was uneventful. Upon emergence from anesthesia the patient was found to be hypertensive and extremely agitated. As this was not far from her baseline she was provided with analgesic medication for comfort. Once the effects of anesthesia diminished she was still hypertensive and agitated. Her parents confirmed that her current condition was a change from her baseline. Several hours after the scan the patient's ace bandage was removed for closer inspection of the central line. Underneath the bandage, an ECG lead was found on her right upper back. Beneath the lead was a two by two centimeter full thickness burn. Despite following standard MR protocol along with a safety time out specifically for non-verbal and pediatric patients an ECG lead was missed resulting in a thermal burn injury. In addition the diagnosis was delayed due to preoccupation with patient's extensive medical history. The burn injury improved over time with the application of silver sulfadiazine cream but not before subjecting the patient to potential complications associated with a burn. In addition the abnormal healing of the tissue and unstable scar formation will likely require excision of the scar and primary closure. Changes were made to the MR safety protocols in our institution in an effort to curb the increasing number of thermal burns occurring throughout the medical field over the last few years.

Bennett, Marcus, Wiant, David, et al. Mechanisms and prevention of thermal injury during MR imaging. *Journal of Applied Clinical Medical Physics* 2012;Vol. 13/No. 4; Hardy, Paul, Weil, Kathleen. A Review of Thermal MR Injuries. *Radiologic Technology* July 2010;Vol. 81/No. 6

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