

AbstractID: 13018 Title: Failure Modes and Effect Analysis on the use of treatment couch parameters at CHUM

Purpose : To describe the work done at our centre in performing a Failure Modes and Effect Analysis (FMEA). The subject of the FMEA was the use of treatment couch position parameters in daily treatments. **Methods**: In collaboration with the hospitals risk management department, analysis of the situation according to FMEA protocols was done. The team doing this work included two physicists, a dosimetrist, a treatment therapist and a simulation therapist. The center's workflow was studied, possible failures were identified, the causes for these failures were discussed and rated and the workflow was reviewed. **Results**: The failure of most concern was when an override on the couch position parameter was performed and an actual setup error was not identified leading to an error in treatment. The effect on the dose to the target and organ at risk is of concern. Causes were separated into 3 categories: inappropriate tolerance tables (i.e. site specific), mechanical issues (i.e. immobilization devices) and incorrect procedures. These causes were rated according to FMEA standards on a scale of 1 to 100 (severity (1 to 5) x frequency (1 to 5) x detectability (1 to 4)). The causes that obtained the highest scores were studied and actions to correct them were undertaken. The highest severity was associated to the anatomy treated, therefore any cause that led to errors near the spine were included in the "high score" items. **Conclusion**: The FMEA protocol is a structured and useful method to review accepted clinical processes which helped identify weaknesses in the clinical workflow. Corrections were done so as to minimize the need for couch position parameters overrides.