

AbstractID: 12987 Title: Implementation of a "time out" procedure in radiation oncology: a multi-institution study over nine years results in a three-fold reduction in misadministrations

Purpose: In recent years the medical industry as a whole has put an increased emphasis on "Time Out or TO" procedures as a way to improve the quality of care. For radiation oncology, TO procedures are rarely used since the error (medical events, misadministrations) rate is estimated to be < 0.06% for reportable events. It is suggested that the error rates may be further reduced by implementing a TO for all radiation therapy procedures. The purpose of this study is to quantify the effectiveness of TO procedures in radiation therapy.

Method and Materials: The misadministration records from five different cancer centers in New York and Michigan States were reviewed from 2000 to 2009. Within this time period, a TO procedure was implemented at each cancer center. Error rates were tabulated for the years before and after the time out procedure was implemented. Errors were broken down into 2 categories: minor and major as defined by the following:

- 1) Minor discrepancy (error<10% in total dose; *issues resolved before major error occurred*)
- 2) Major Errors of which there are two types :
 - a) Recordable Misadministration (error \geq 10% but < 20%)
 - b) Reportable Misadministration (error \geq 50% in 1 day; error \geq 20% in total, wrong site, person or energy)

Results: After the implementation of TO procedures, a reduction in error rates by a factor of three was realized. For the clinics in this study, the TO procedure was supported by administration as an extension of hospital policy for medical procedures.

Conclusion: TO procedures were found to be effective in reducing the number of errors in radiation therapy. Based on these findings, it is recommended that the TO be implemented in all radiation oncology centers: the improvements to patient safety easily justified the cost of an additional 15 seconds per field.