

Standard Operating Procedure (SOP) for mould room practices and simulation of head neck cancer patients undergoing proton therapy



FULL ARTICLE

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OBJECTIVE

To outline a standardized, reproducible workflow for head and neck patient immobilization and simulation using CQ Medical **BoS**[®], AccuForm™ (MOLDCARE[®]) cushions, and Fibreplast[®] masks to support precise proton therapy delivery.

SUMMARY

This article describes a comprehensive Standard Operating Procedure (SOP) for preparing head and neck cancer patients for Intensity Modulated Proton Therapy (IMPT). It considers the unique challenges of IMPT, such as sensitivity to beam path changes and sharp dose fall-off. The SOP formalizes stages to ensure accuracy, reproducibility, and patient comfort.




Key components include:

- Structured preplanning audits guiding device selection and imaging needs
- Use of BoS inserts, AccuForm cushions, Fibreplast masks, and customized mouth-bites
- A detailed sequence for patient preparation, immobilization, and CT acquisition

CLINICAL IMPACTS

- Standardized procedures establish a clear, repeatable workflow for RTTs, reducing variability and errors that could lead to re-sim.
- The use of customized indexed devices improves daily setup accuracy and reproducibility, essential for precise proton therapy delivery.
- Clearly defining roles and steps (assessment, audit, immobilization, scanning) saves time and resources and enhances consistency.
- Preplanning audits strengthen team communication and reduce downstream uncertainties.

KEY TAKEAWAYS

-  **CONSISTENCY** The SOP creates a consistent, repeatable workflow that enhances the overall quality of care.
-  **REPRODUCIBILITY** Custom cushions and masks support stable, reproducible positioning essential for proton beam path accuracy.
-  **EFFICIENCY** Well-defined fabrication steps and device indexing reduce setup variation and improve throughput for busy proton therapy programs.