

# Cost & Efficiency Project : Optimizing Material Utilization in Mucosal and Trucut Biopsy Procedures

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## OBJECTIVE

The objective of the project is to optimize the use of materials and improve efficiency in histopathology procedures at SKMCH & RC. Specifically, it aims to reduce the resource consumption and time spent on mucosal and trucut biopsy procedures, which currently involve preparing four tissue sections (H&E) across two slides. The goal is to lower costs, enhance diagnostic quality, and improve workflow efficiency while maintaining high standards of patient care.

## METHODS

Data from 1st Jan to 30<sup>th</sup> June 2024 was collected and analyzed to evaluate the consumption patterns and associated cost of materials used in Mucosal and Trucut Biopsy Procedures at SKMCH & RC.

During this period:

- Consumed slides (count) extended cost was Rs. 1,797,036
- Consumed coverslips (count) extended cost was Rs. 742,254
- Consumed mounting media (ml) extended cost was Rs. 42,192
- Consumed printing (count) extended cost was Rs. 273,462
- Consumed paraffin (gm) extended cost was Rs. 364,032

Overall expenditure was Rs. 3,218,976.

Modification in Embedding Molds

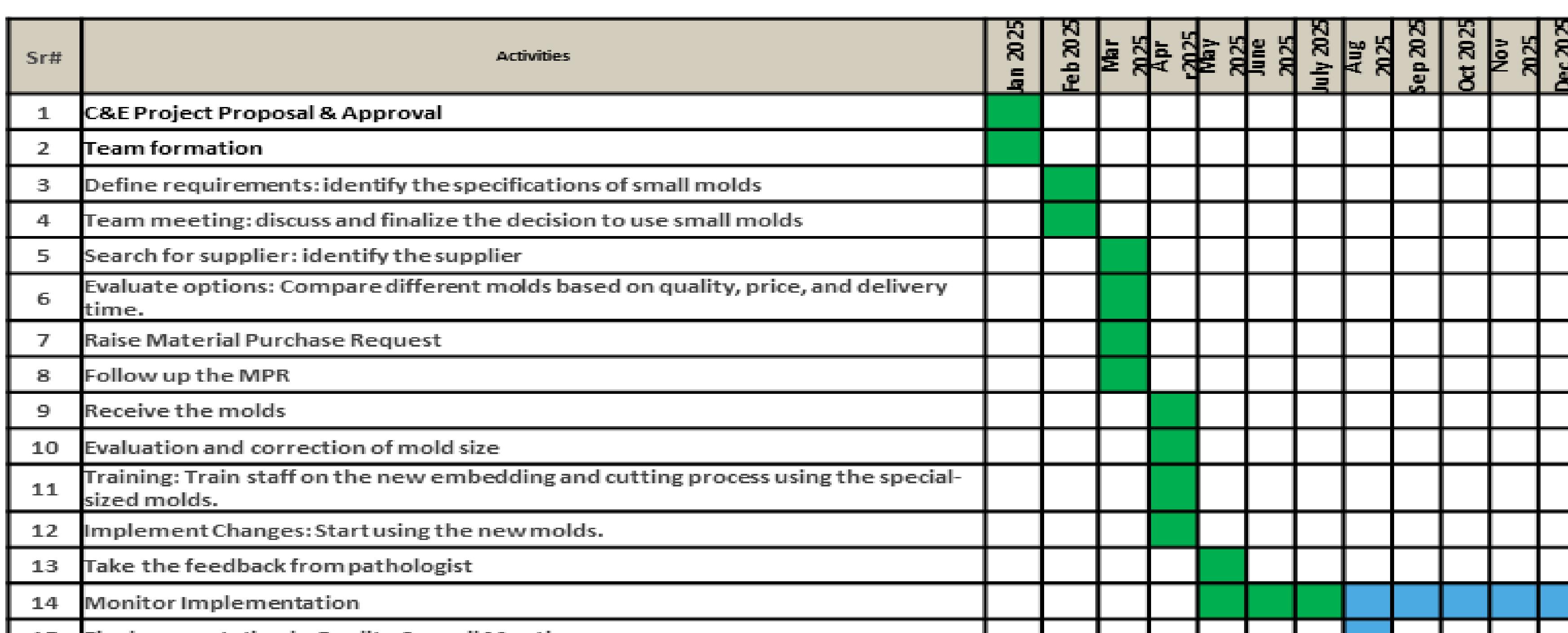


Figure 1 : Highlights the differentiation between old and new practices

### STRATEGY IMPLEMENTATION

- New molds were procured.
- The molds were tested, and feedback was collected from the histopathologist.
- Upon receiving approval, staff were trained on the use of the new molds.
- The molds are now in regular use.

### Gantt Chart



Item	Unit Cost (Rs)	Pre implementation 01-01-2024 to 30-06-2024		Post implementation 01-01-2025 to 30-06-2025	
		Total CPTs: 16407	Count	Extended Cost	Count
Slides (Count)	46	39,066	1,797,036	20,696	952,016
Coverslips (Count)	19	39,066	742,254	20,696	393,224
Mounting Media (ml)	18	2,344	42,192	1,242	22,356
Printing (count)	7	39,066	273,462	20,696	144,872
Paraffin (gm)	3	121,344	364,032	122,106	366,318
		Total	3,218,976	Total	1,878,786

## RESULTS

From January to June 2025, SKMCH&RC successfully reduced material usage for mucosal trucut biopsies, resulting in cost savings of Rs. 3,290,442. The new approach lowered costs **from Rs. 3,524,007 to Rs. 1,878,786**. This outcome demonstrates the effectiveness of cost-optimization strategies and quality improvement efforts.

### Summary of Cost saving due to shift in practice

Total CPTs (over 6 months, Jan-2025 to Jun-2025) where changes are applicable	17797
Total cost if processed with old practice	3,524,007
Total cost when processed with new practice	1,878,786
Total savings	3,524,007 - 1,878,786 = 1,645,221
Estimated cost saving over one year	Rs. 1,645,221 x 2 = Rs. 3,290,442 per year.

## CONCLUSION

From January to June 2025, SKMCH&RC minimized handling errors, streamlined slide reviews, enhanced visual comparisons, and achieved significant cost savings of Rs. 3,290,442 in mucosal trucut biopsies through optimized practices and resource utilization.

