College of Medicine

Graduate Medical Education

Lights, Camera, Action: Enhancing Diagnostic Accuracy and Staging of Surgical Pathology Specimens With Gross Photographs

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Background and Objectives

Accurate interpretation of surgical pathology specimens during gross examination is essential for correct tumor staging and overall diagnostic precision in both benign and malignant cases. Although pathology residents, pathologist assistants, and grossing technicians routinely provide detailed written and verbal descriptions, the pathologists may still find it difficult to visualize key gross features by microscopic evaluation, particularly when descriptions are unclear or incomplete. High-quality gross photographs offer a critical visual bridge, improving diagnostic accuracy, supporting clinical decision-making, and enhancing resident education.

SMART Aim

Enhance diagnostic accuracy and pathologic staging by increasing photo documentation by 20% compared to the previous fiscal year during specimen grossing in the surgical pathology lab.

Materials and Methods

Our department launched a quality improvement initiative to increase the number and quality of gross photographs taken at the time of specimen evaluation. The goal was to achieve a 20% increase in photographic documentation during fiscal year 2025–2026 compared with the prior year, monitored through monthly photo logs.

Phase I (July 2025): Education of grossing personnel on the clinical importance of gross photography, including standardized protocols and guidelines for capturing essential specimen features.

Phase II (August 2025–February 2026): Monthly audits of photographic documentation with real-time feedback to grossing staff to reinforce expectations and address gaps.

Phase III (March 2026, ongoing): Evaluation of compliance and analyzing the data to assess protocol effectiveness.

Phase IV (anticipated June 2026): Implementation of optimized protocols based on final audit results.

Results to Date

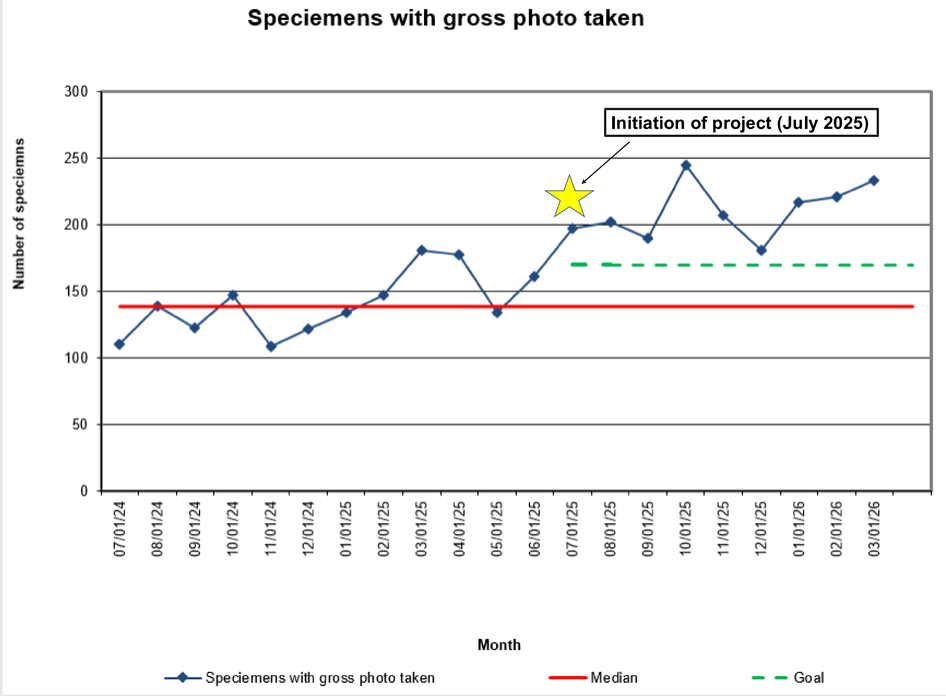

Figure 1: Gross specimen photography has achieved more than 20% increase over the previous year. While December recorded the lowest monthly volume, total numbers remained significantly above established goals.

Figure 2. Annotated gross photograph showing a portion of myometrium with invading placental tissue in a case of placenta increta.

Discussion/Impact

Data collected to date demonstrate a significant increase in gross photographs obtained since initiation of the project in July 2025. The target of a 20% increase compared with the previous fiscal year was achieved each month. Both benign and malignant cases were included in the analysis.

Figure 2 shows a gross photograph obtained at the time of dissection demonstrating placental parenchyma replacing and thinning the myometrial layer of the uterus, consistent with placenta increta. Figure 3 shows the corresponding histologic findings, with chorionic villi extending into and replacing the myometrium, with focal areas of less than 1 mm of residual myometrium. Correlation of gross and histologic findings allowed for definitive diagnosis.

High-quality gross photographs, when correlated with histology, aid in the diagnosis of benign and malignant processes and improve staging accuracy for complex tumors. Upon completion of data collection, specialized protocols for gross specimen photography will be expanded, and compliance will be further assessed.

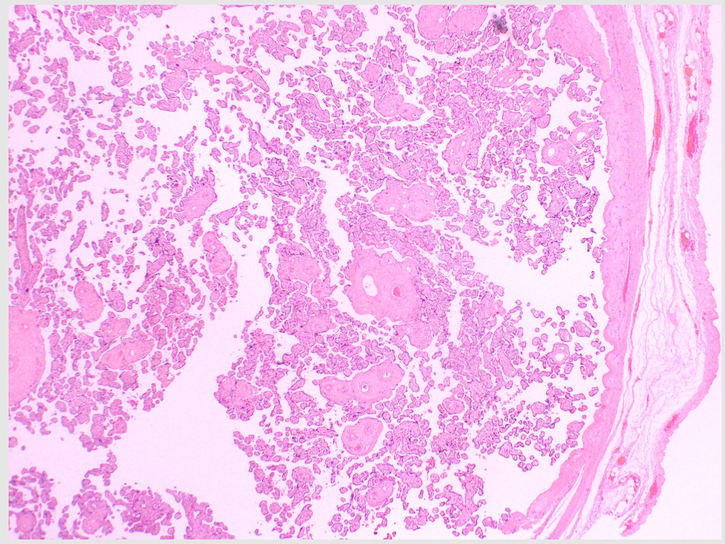

Figure 3. Histology sections showing invading chorionic villi with <1 mm myometrium remaining, demonstrating correlation with gross photograph