MidAtlantic Permanente Medical Group (MAPMG) Deploys Breast IHC AI in HALO AP®

A Seamless Digital Workflow Empowers Pathologists To Standardize Prognostic Scores And Improve Turnaround Times

Digital Pathology Objectives at Permanente Medicine

- Further improve manual slide handling and imaging processes
- Expedite diagnosis impacting patient care
- Expand collaboration across geographic barriers
- Deploy AI in clinical practice to support objective scoring
- Sustain diagnostic capabilities with flexible case distribution between pathologists

Key Statistics for Permanente Medicine

- 19 pathologists within 11 subspecialities
- More than 83,000 surgical and cytology cases per year
- Approximately 1000 breast cancer cases per year
- Utilizes digital pathology in HALO AP® for primary diagnosis in 40% of surgical cases
- Utilizes Breast IHC AI for scoring breast biomarker IHC studies for all newly diagnosed breast cancers

PERMANENTE MEDICINE®
Mid-Atlantic Permanente Medical Group

The Mid-Atlantic Pemanente Medical Group is one of the nation's premier multispecialty medical groups and is the largest integrated medical group in Maryland, Virginia and the District of Columbia. The medical group has more than 1,800 Permanente physicians spanning more than 60 subspecialties. Together, we serve approximately 800,000 Kaiser Permanente members in Maryland, Virginia, and the District of Columbia at 35 area medical centers, plus several community hospitals and skilled nursing facilities.

BREAST IHC AI
HALO Clinical AI Solutions

Breast IHC AI is an automated, AI-based decision support tool that standardizes scoring of HER2, ER, PR, and Ki67 on whole slide images in accordance with clinical guidelines. It is seamlessly integrated into the HALO AP® diagnostic pathology platform.
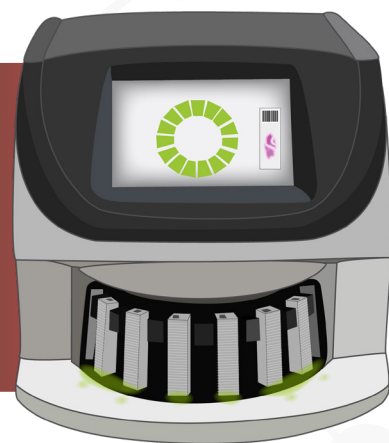
> "A 25% increase in case sign-out/diagnostic efficiency has been achieved by implementing HALO AP® for digital pathology first reads."
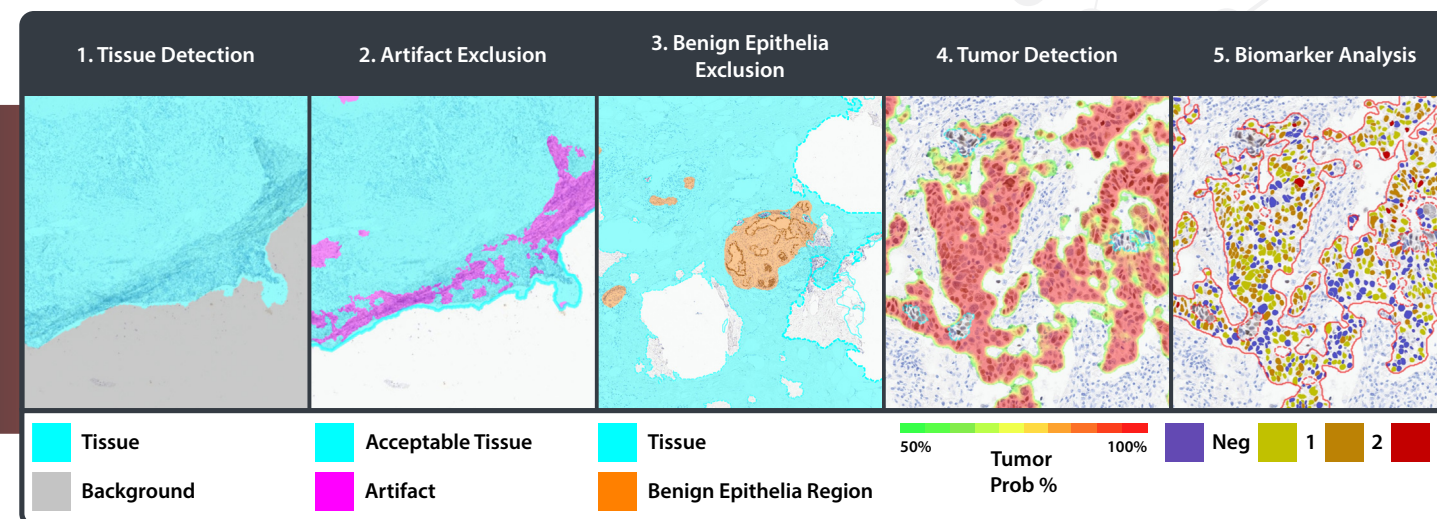
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BREAST IHC AI WORKFLOW IN HALO AP® AT MID-ATLANTIC PERMANENTE MEDICAL GROUP

1 Slide Scanned & Breast IHC AI Panel Added

2 Automated AI Analysis and Pathologist Review

1. Tissue Detection	2. Artifact Exclusion	3. Benign Epithelia Exclusion	4. Tumor Detection	5. Biomarker Analysis

Tissue	Acceptable Tissue	Tissue	50% ▬▬ Tumor Prob % 100%	Neg 1 2 3
Background	Artifact	Benign Epithelia Region		

3 AI-assisted Breast Receptor Result Sign Out
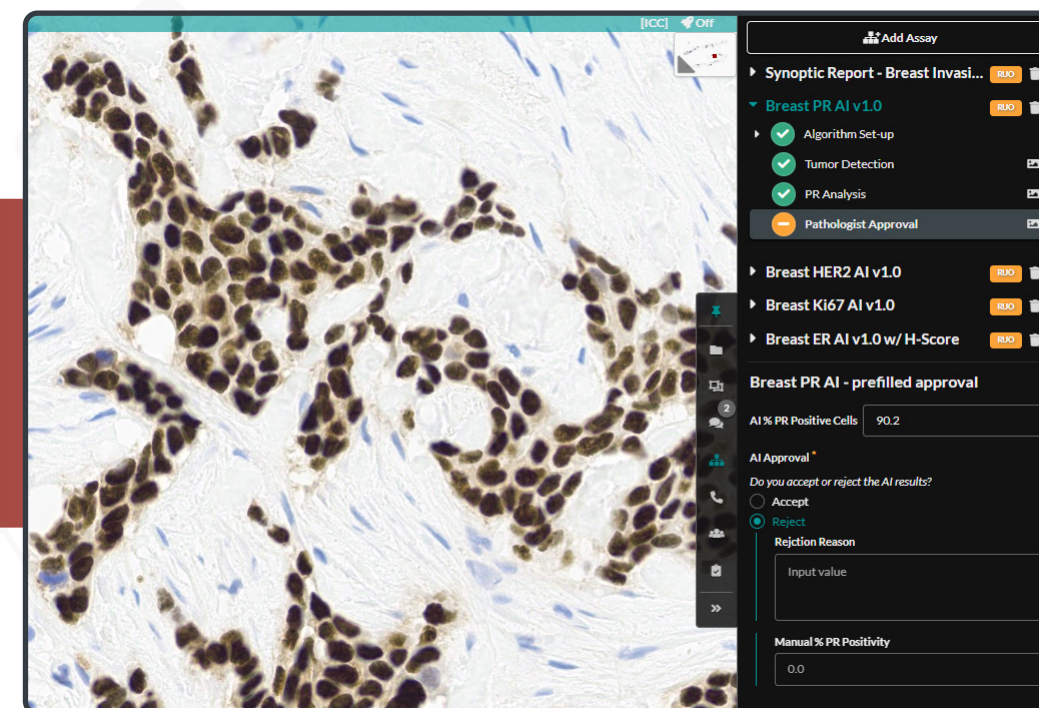
A high-level overview of HALO AP® deployment at Mid-Atlantic Permanente Medical Group **(1)** Breast IHC AI panel (ER, PR, HER2, and Ki67) is added when slides are scanned. The lab tech will exclude control tissue via annotation and will automatically run analysis on all tissue present before pathologist review. **(2)** The pathologist will review biomarker positivity and intensity and decide if they agree with AI analysis. **(3)** Pathologist agrees with AI analysis and case can be signed out OR pathologist disagrees with AI analysis and/or areas of DCIS/LCIS/ALH have been detected and need to be manually excluded. ROIs can be manually selected for further analysis or pathologist can manually enter a score. Cases are then reviewed and signed out by pathologist.
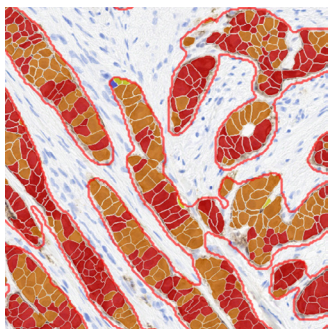
Why Permanente Medicine Chose HALO AP®

- Scanner agnostic & compatible with Leica Aperio GT 450 DX
- Open system
- Platform for deployment of AI diagnostics using LDTs
- Ease of case organization and workflow
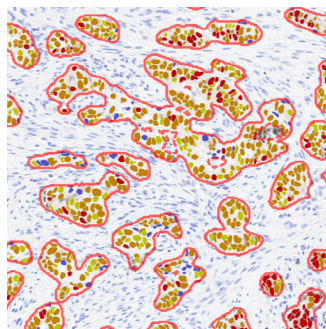- Powerful viewer that facilitates consultations and collaborations

Why Permanente Medicine Chose Breast IHC AI

- Seamlessly integrates into HALO AP®
- Accurate tumor detection and objective scoring of positive cells and intensity
- Ability to deploy as a LDT to reduce over/under treatment of breast cancer
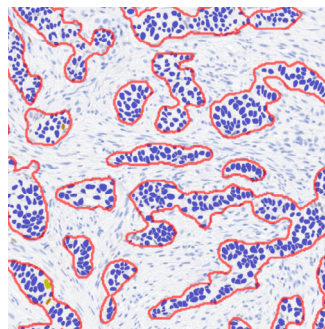- Enables standardized clinically relevant output metrics of scores across pathologists

Breast IHC AI harnesses the power of AI to analyze the positivity and intensity of the breast cancer biomarkers HER2, ER, PR, and Ki67 with clinical outputs based on ASCO/CAP guidelines.
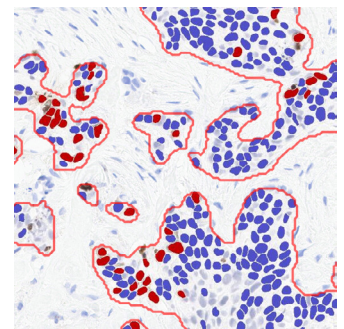

HER2

ER

PR

Ki67

READY TO LEARN MORE?

Reach out to learn more about Breast IHC AI and HALO AP®.

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