# PowerLook® Tomo Detection 2.0

## Artificial Intelligence for Digital Breast Tomosynthesis

## Challenge

Digital breast tomosynthesis (DBT) is rapidly replacing full-field digital mammography in screening due to its clinical value in cancer detection. Although this advanced technology is becoming the standard of care, it presents significant challenges to radiologists. Clinicians are confronted by the workload and time required to accurately read the extensive amounts of data contained in DBT cases. Further, as incidence rates of cancer continue to rise, it is becoming increasingly more important to find cancer sooner, while reducing unnecessary recalls resulting from false positives.

## Solution

PowerLook Tomo Detection 2.0 is revolutionizing the DBT reading paradigm and presents a transformative solution to address these challenges.

The high-performing, concurrent-read, cancer detection and workflow solution rapidly analyzes each tomosynthesis image, detecting both malignant soft tissue densities and calcifications with unrivaled accuracy.

Built on the latest deep-learning and artificial intelligence technology, the PowerLook Tomo Detection 2.0 algorithm is clinically proven to assist radiologists in addressing the challenges of reading tomosynthesis cases by:

- Improving cancer detection rates
- Reducing false positives and unnecessary patient recalls
- Decreasing reading times

## Clinical Performance Benefits

- 8.0% average increase in sensitivity
- 6.9% average increase in specificity
- 7.2% average reduction in recalls
- 5.7% average improvement in radiologist AUC

## Workflow Benefits

- 52.7% reduction in reading time
- Certainty of Findings scores assist in prioritizing caseload and clinical decision-making

**Compatible with leading digital breast tomosynthesis systems**

Breast Health Solutions

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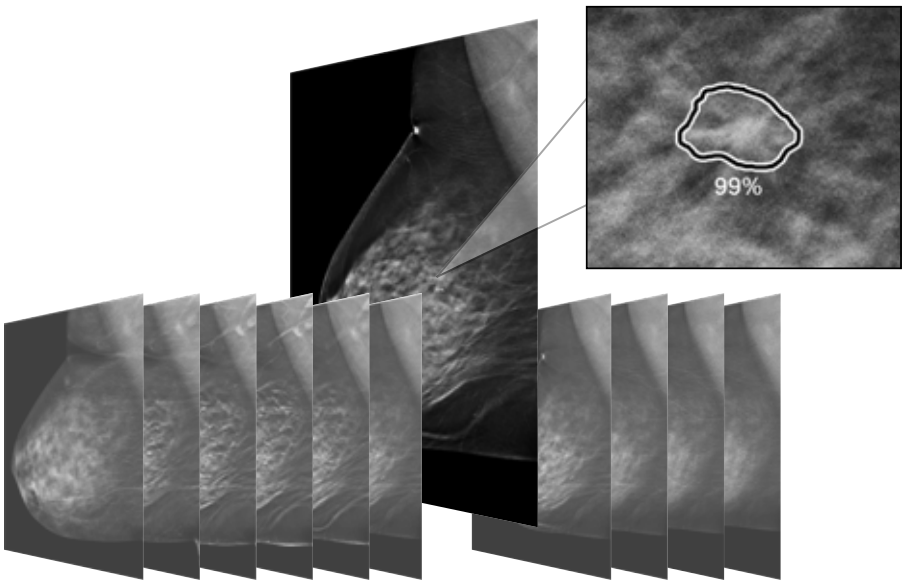
## Certainty of Finding Scores

The PowerLook Tomo Detection 2.0 algorithm is trained to detect malignancies and determine the probability of malignant findings in each case, providing radiologists with a certainty of finding score that serves as a guide that a suspicious area needs further examination for each detected lesion and each case. These scores represent the algorithm's confidence that the detected soft tissue densities (masses, architectural distortions and asymmetries) and calcifications are malignant.




### Lesion Score

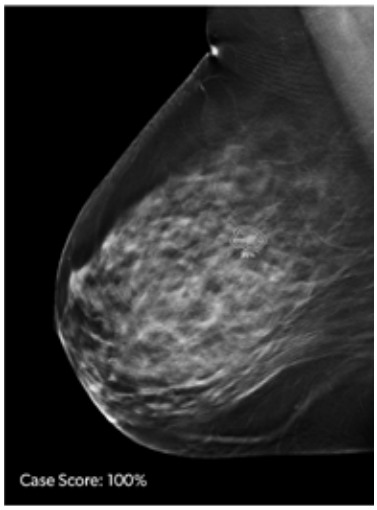
Each tomosynthesis plane is analyzed and assigned a Lesion Score on a scale from 0 – 100%.

This score represents the algorithm's level of confidence that the lesion is malignant.

### Case Score

Each tomosynthesis plane is analyzed and assigned a Case Score on a scale from 0 – 100%.

This score represents the algorithm's confidence that a case has suspicious findings. The Case Score can also be used to assist radiologists in the prioritization of their caseload.




## Technical Specifications

Tomo Detection 2.0 runs on the industry-leading PowerLook server platform with NVIDIA Graphical Processing Units (GPU). PowerLook is a flexible and reliable DICOM platform that easily integrates with image modalities, mammography review workstations, PACS, and image storage systems. Leveraging the latest in GPU technology, the algorithm can rapidly process a 4-view tomosynthesis case in one to two minutes, ensuring results are available to radiologists in the most efficient manner.

*CE Mark Approved, Health Canada Licensed, FDA Clearance Pending*

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