A WATSON HEALTH IMAGING SYSTEM OVERVIEW

Merge Eye Care PACS™
A web-based image review and management system
Demand for ophthalmic imaging solutions is increasing due to three dominant trends: an aging population, rising incidence of common eye diseases, and a shortage of ophthalmologists. For eye care professionals, these market drivers present both opportunities and challenges, particularly in the realm of imaging technology. As the number of people impacted by eye diseases grows, it is crucial for practices to define and refine their imaging strategies to better manage patient data, speed the detection of eye conditions, and provide the quality care that patients demand and deserve.

An ophthalmic image management system can help.

**Merge Eye Care PACS overview**

As a standalone application or integrated with an Electronic Health Record (EHR) system, Merge Eye Care PACS* integrates all of the diagnostic devices and clinical applications used by a practice into one cohesive system, giving physicians the ability to review all of their patients’ images and diagnostic reports side-by-side from anywhere, at anytime.

With Merge Eye Care PACS, Watson Health combines the user experience benefits of a traditional application with the infrastructure benefits of a web-based application, helping your practice to break down silos to better manage clinical images, streamline practice workflow, and provide quality patient care.
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**Automatic image and report acquisition**
The cornerstone of the Merge Eye Care PACS image management system is AutoImport technology, which automatically acquires a copy of every image and diagnostic report captured within the practice, often with no user interaction. Unlike traditional importing technologies that require manual time and effort, AutoImport frees up staff to focus more on patients, and drastically reduces the possibility of lost records due to human error. Even older legacy devices can enjoy full demographic validation by integrating with patient management systems via HL7. Regardless of the technology being deployed, ophthalmic practices can maximize interoperability by leveraging industry standards such as DICOM and HL7, as well as the cloud, for maximum portability and compatibility of image records.

**EHR integration**
Merge Eye Care PACS easily integrates with leading EHR systems, delivering single-click access from a patient’s progress note within the EHR to their images and diagnostic reports within Merge Eye Care PACS. This fully-integrated configuration provides for instant access and the ability to review images and diagnostic reports with all of the necessary image enhancement and advanced review tools.

**Multiple location support**
Merge Eye Care PACS thrives in multiple-site environments, using a combination of exclusive technologies that provide instant access to images and diagnostic reports captured at all of a practice’s locations. The Merge Eye Care PACS distributed data model delivers powerful system speed and image quality, and eliminates the need for images to reside at a single physical location. Instead, the system is able to manage image locations so images can be reviewed as soon as they are captured rather than waiting for them to be transferred to a single central host site. During periods of light system use, like the middle of the night, the images can be transferred to a main hosting location if desired.

The user experience in this workflow is seamless. During the normal use of Merge Eye Care PACS, users will not be aware if the image they are reviewing resides on the host or in a satellite location.
Interpretation report
The Interpretation Report is a customizable tool that allows practices to store clinical interpretations of testing data within the Merge Eye Care PACS application. With Interpretation Report, the data fields can be customized to match a practice’s needs and all of the necessary data will be stored within the database.

Once data is entered into the Interpretation Report, messages are automatically sent via HL7 to other clinical information systems within the practice. With the ability to automatically distribute data to the people and systems that need it, Interpretation Report provides the dual benefit of providing efficient data entry at the time of image review, as well as eliminating the time-consuming and mistake-prone task of moving data from one system or one individual to another.

Advanced review tools
The Merge Eye Care PACS Advanced Review Tools take the images, reports and videos that have been captured by Merge Eye Care PACS and either combines them or enhances them to make it easier for the clinician to identify and track pathologies. With these tools, users can focus their time and effort on diagnosing and treating disease—rather than wading through the volumes of data captured by different diagnostic devices within the clinic.

AutoHistory
With AutoHistory, practices can review their diagnostic reports side by side in a virtual stack, allowing them to page through visits by simply using the scroll wheel on their mouse.
AutoHistory is compatible with the following types of ophthalmic diagnostic devices:

- Autorefractors
- Corneal Topographers
- ERGs
- OCTs
- Optic Nerve Head Analyzers
- Pachymeters
- SLOs (Including HRA and RTA)
- Visual Field Analyzers

**AutoMontage & AutoMontage On-The-Fly**

These features automatically and seamlessly combine multiple fundus images together into a single color-corrected view of the retina.

**PerfectView**

PerfectView enables the combination of multiple retinal image types for a single interactive view. Images are automatically registered and the user is presented with an interactive view for reviewing pathologies across multiple image types and tracking change over time.

**Compatible Image Types:**

- Color Retinal
- FA
- FAF
- ICG
- Optic Nerve Head Images
- Red-Free Images

**OCT Image Viewing**

OCT is increasingly used at nearly every eye care facility to obtain high-resolution images. Watson Health was one of the first vendors to support OCT standards, displaying the fundus image along with the associated B-scan images. By supporting the OCT standard, Merge Eye Care PACS can be used as a single viewer, eliminating the need for practices to buy multiple review licenses from individual OCT modality vendors.

Like other advanced review tools in Merge Eye Care PACS, the controls for viewing and manipulating OCT images enable users to view images side-by-side, scan through frames, and perform detailed measurements. Also, studies can be scroll-locked together to help physicians compare and measure changes more effectively over time, and scroll through DICOM OCT slides simultaneously.

**Dynamic Image Scaling**

Merge Eye Care PACS Dynamic Image Scaling eliminates the need to compromise between system speed and image quality. Users can evaluate pathology at full-resolution without having to choose between transferring massive files or applying damaging compression. Modern ophthalmic digital imaging systems are capable of capturing images that are 25MB or larger—resulting in clarity and detail never before seen. Unfortunately, even 24" monitors have only enough pixels and screen real estate to display about 1MB of the image at a time.

With Merge Eye Care PACS, the system automatically and instantly scales the full-size image and sends a high-quality version of the portion that will fit into the window. When the userZooms in or navigates within the image, the system will instantly send an optimized version.

In the example above, a high-resolution retinal image is being reviewed using both Dynamic Image Scaling and the method used by a competitive system.

By using Dynamic Image Scaling, Watson Health is able to transmit a much higher quality image with a file size that is about half the size of competitive systems.
We bring over 25 years of experience.

About Watson Health Eye Care Solutions
Watson Health offers an ophthalmic image and informatics solutions suite that allows eye care specialists to break down silos so they can better manage clinical images, improve practice workflow to help speed the detection of eye conditions, and provide quality patient care.

About Watson Health Imaging
Watson Health Imaging, a market segment of IBM Watson Health, is a leading provider of innovative cognitive computing, enterprise imaging and interoperability solutions that seek to advance healthcare. Its Merge branded enterprise imaging solutions facilitate the management, sharing and storage of billions of patient medical images.

With solutions that have been used by providers for more than 25 years, Watson Health Imaging is helping to reduce costs, improve efficiencies and enhance the quality of healthcare worldwide.

*Merge Eye Care PACS is not FDA-cleared for diagnostic use on mobile devices.