Observing and Understanding Wear Patterns on Phosphor Storage Plates

The Phosphor Storage Plates used in all models of ScanX® are constructed so they can have a long service life. Plates will display evidence of normal wear over time. The black side of the plate is a wear surface that, because of its color and coating, will show wear patterns. The pattern can appear on all sizes of plates though it is easiest to see on the larger sizes.

Phosphor Storage Plates are composed of several layers of different materials. Starting from the back, or black side, they are:

Base outer coating ⇨ Black layer ⇨ White layer ⇨ Phosphor coating ⇨ Top protective coating.

1. ***What does normal wear on the black side look like?***

   The wear patterns have been variously described as lines, marks, scuffs, scratches, and shadowy streaks. These linear marks will appear lighter than the black rear-surface. Over time, the white material layer above the black coating may also become exposed.

2. ***What causes these marks?***

   The wear patterns are created by the mechanism that moves the plate through the scanning area of the machine. The plate is transported by a series of traction belts that contact the same part of the plate each time the plate is read. Since both the plate and traction belts are fixed in position relative to one another, the wear pattern is cumulative, becoming more visible over time.

3. ***Do the wear patterns affect image quality?***

   No. The image is captured by the front, or light-colored surface of the plate. It is on this front side that the X-rays strike the phosphor coating. The black side plays no role in image capture.

4. ***Is there anything I should be doing to care for my plates?***

   Yes. Handle plates by the edges. Avoid situations where the front, light colored side of the plate could be scratched. Remember, that is the image-capture surface.
   Use ScanX Cleaning Sheets to remove any particles, hair or debris that may have entered the ScanX.