Why **The MOZART® System** is Best for Breast Surgery

Tomosynthesis is rapidly becoming the gold standard for breast imaging in the mammography suite. The technology provides superior accuracy for identification of lesions, better visualization through dense tissue and fewer ambiguous results. Centers of breastcare excellence worldwide have adopted or are adopting tomosynthesis as the core technology for their mammography suites.

Now, 3D tomosynthesis is available for breast specimen imaging in the Operating Room.

The KUBTEC Mozart System, the only 3D tomosynthesis intraoperative specimen imaging system for breast cancer surgery, is clinically demonstrated to enable surgeons to reduce re-excision rates, preserve cosmesis, and decrease operating room time.

Whats more, clinical studies indicate that the Mozart System is “independently associated with a lower re-excision rate (over 50% reduction)”, and “decreases the amount of additional tissue excised unnecessarily.”

Comparison of the MOZART® System (3D specimen tomosynthesis) and MicroCT

MOZART® System

Extensively used and evaluated in breast cancer surgery

Specifically developed and used for breast cancer surgical applications

Image acquired in 1 minute

5 images total acquired during a single acquisition (one time placing specimen in cabinet)

- 2D
- 3D
- K-View
- Optical View
- Blended Image

Specimens can include lumpectomies, small mastectomies, lymph nodes and shaves

Images exhibit high spatial resolution and excellent contrast resolution

Great conspicuity of microcalcifications compared to micro CT throughout image reconstruction

Minimal warm up time and calibration takes less than 1 minute

Simple to interpret images, routinely interpreted by surgeons in the Operating Room

MicroCT

Extensively used for imaging bones and teeth of small mammals, inanimate objects, nondestructive testing and biomedical research (Not known or evaluated in breast cancer surgery)

Poor visualization of soft tissue, small microcalcifications, and margins in dense tissue

Spatial resolution only moderate and contrast resolution is low

3D resolution will never be better than 200 microns, and could be even worse.

Complex images requiring special skill for interpretation

Image reconstruction takes a minimum of 4x as long to reconstruct versus tomosynthesis

Metal components within the specimen, (biopsy clips, surgical clips, etc.) significantly increase image reconstruction time

2D & 3D images acquired separately, using different processes, making orientation difficult

Special disposable specimen container required for 2D acquisition

Limited to smaller specimens

Larger physical specimens translate to longer time and lower resolution images

Magnification technique limits the image field of view

Very large file size (300MB-2GB)

System is highly sensitive to vibration

Long Warm up time for X-ray tube

MOZART® System - 2D and 3D Resolution

Mag	2D FOV	Pixel Size
1x	5” x 6”	50µm
2x	2.5” x 3”	25µm

MicroCT - 2D Only Resolution

Mag	2D FOV	Pixel Size
1x	6” x 6”	100µm
2x	3” x 3”	50µm
4x	1.5” x 1.5”	25µm

How to Image a Breast Specimen:

MOZART®

- Put Specimen in cabinet
- Push Acquire 3D
- Wait 1 minute
- View 3D, 2D, Optical, KVIEW images
- Take additional tissue or close patient

vs.

MicroCT

- Do you want 2D first or 3D first?
- 2D: put specimen in holder
- Put specimen holder in cabinet
- Confirm proper orientation
- Request 2D image
- Acquiring...
- View 2D image
- Remove specimen holder from cabinet
- Remove specimen from holder
- Put specimen back in cabinet
- Request 3D image
- Acquiring...
  Wait 5 to 10 minutes
- Time depends on:
  Specimen size/density
  Amount of metal
- View 3D image (w/ help of radiologist)
- Take additional tissue or close patient

KUBTEC MEDICAL IMAGING