

# PIXARRAY FOR X-RAY

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# THE AREAS OF CONCERN

- RISK OF LOSING SPECIMENS
- UNACCEPTABLE HIGH TURNAROUND TIMES
- LARGE NUMBER OF BLOCKS
- NEED TO HAVE A CLINICAL AND RADIOLOGICAL CORRELATION
- EXPENSIVE
- CUTTING BONE THAT HAS NOT BEEN DECALCIFIED

# THE AREAS OF CONCERN

- THESE CONCERNS HAVE A POSSIBLE NEGATIVE IMPACT ON THE PATIENT
- A WAY WAS NEEDED TO MINIMISE THEM
- THE PATHOLOGIST, RADIOLOGIST, AND MANAGAMENT CHOSE

# THE PIXARRAY MACHINE



# SPECIFICATIONS

- ENERGY RANGE 5kV – 45kV
- XRAY COVERGE 19 CM
- SIZE 38(W)\*41(D)\*66(H)
- WEIGHT 29 kg
- DICOM INTERFACE Digital Imaging and Communications in Medicine standard

# FEATURES

- NO XRAY SHIELD REQUIRED
- NO XRAY KNOWLEDGE OR TRAINING REQUIRED
- NO RADIOLOGY LICENSE REQUIRED
- TRANSPORTS IMAGES TO RADIOLOGY AND PATHOLOGY WITHIN SECONDS
- COMPACT AND PORTABLE DESIGN
- PRE-EXPOSURE AUTOMATICALLY SELECTS OPTIMAL kV AND EXPOSURE TIME
- 1.4:1 MAGNIFICATION MODE

# CASE 1- (BREAST)

- **CLINICAL DETAILS**

“High grade DCIS on core biopsy 35mm extent”

- **SPECIMEN**

## RIGHT MASTECTOMY

- **GROSS DESCRIPTION**

“A right breast weighing 420g, and measures 200mm\*130mm\*by 30mm.The breast has been sliced into 11 slices. No discrete lesions are seen.

The radiograph shows calcifications in slices 4 to 8. In discussion with the radiologist the calcifications of concern are present in slice 6.

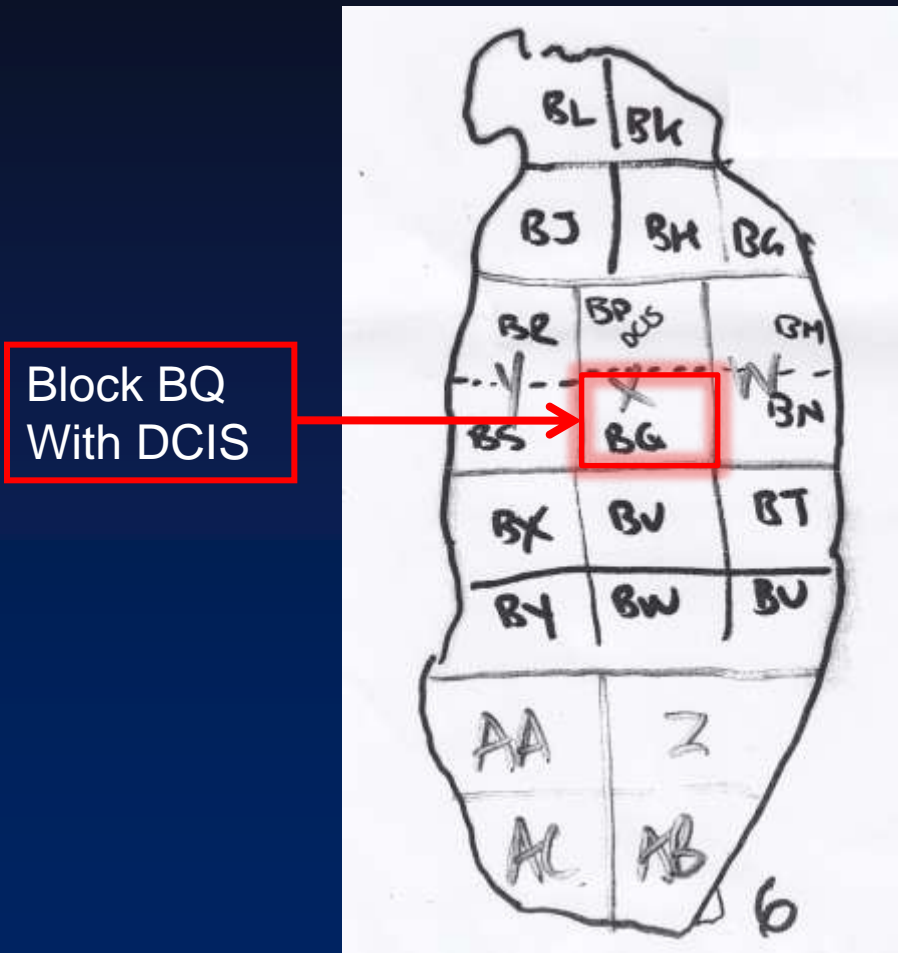
# Slice 6 photo



# Slice 6 X-Ray



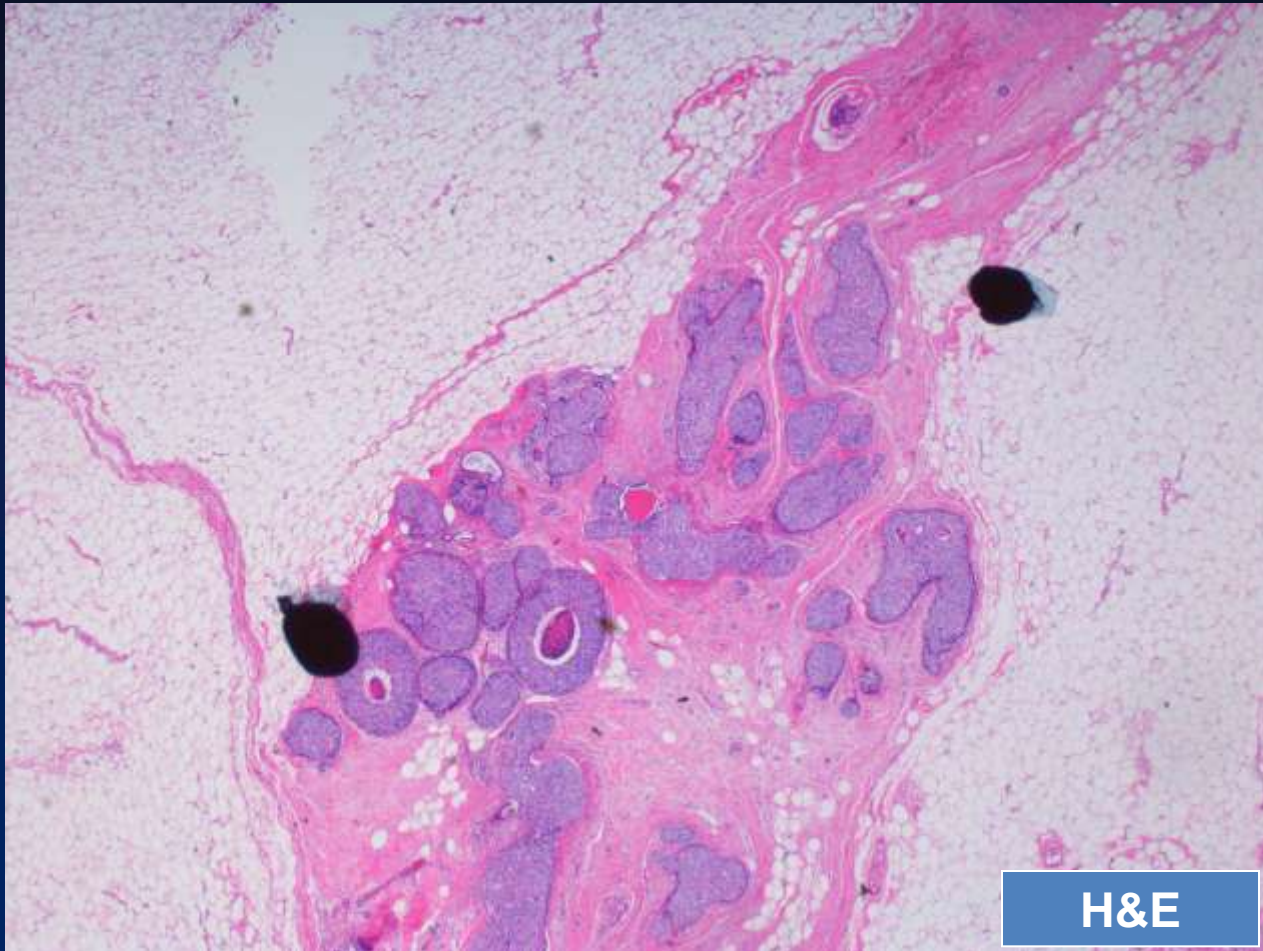
# MAP OF BLOCKS TAKEN



# HOW MANY BLOCKS

- A TOTAL OF 78 BLOCKS TAKEN
- SAMPLING OF BENIGN CALCIFICATIONS
- SAMPLING OF SLICES 5 AND 7
- THE FIBROADENOMAS
- LYMPH NODES

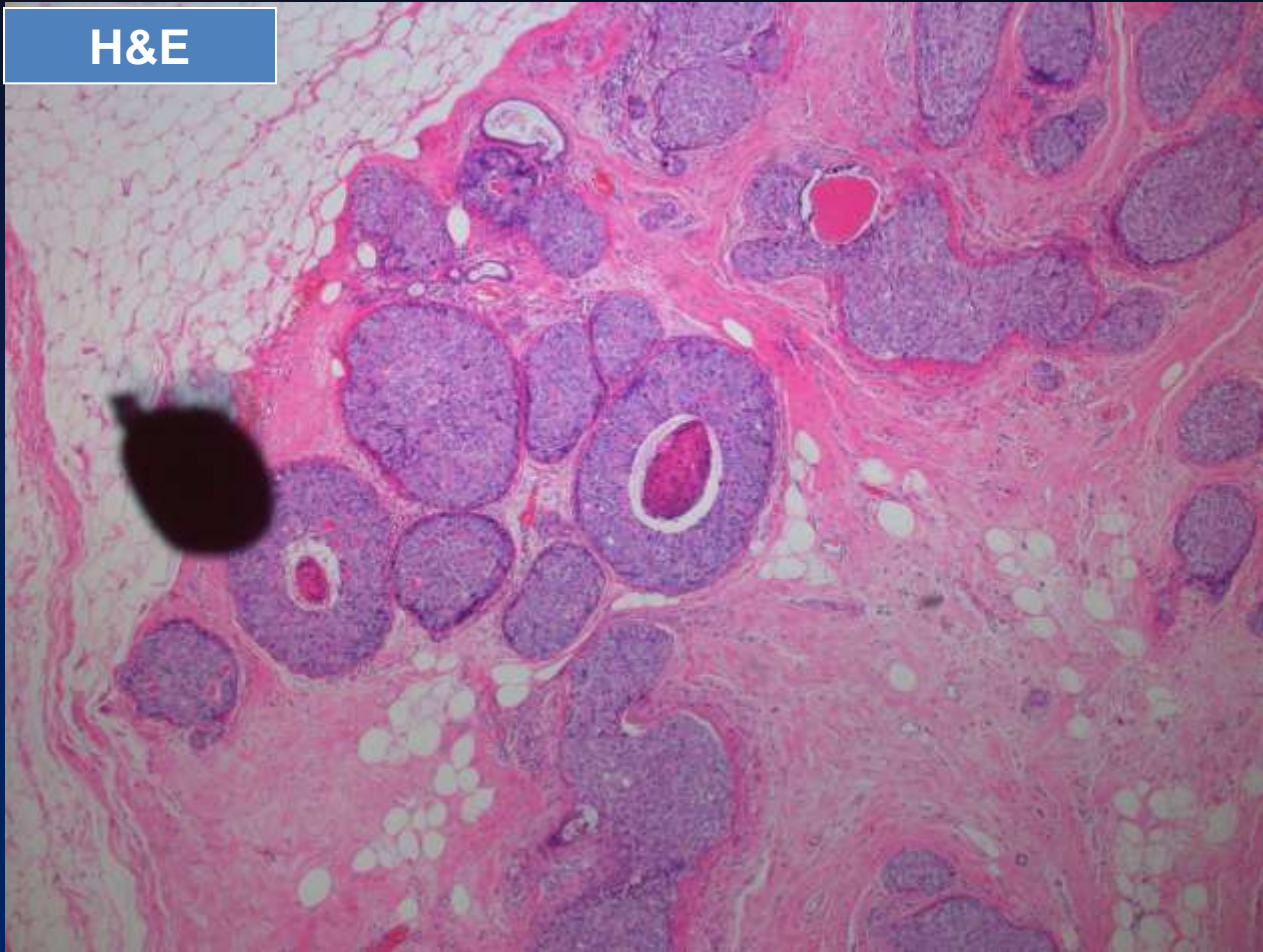
# SLIDE 'BQ' - DCIS



H&E

# 'BQ' SLIDE X4

H&E



# THE FINAL DIAGNOSIS

- **DIAGNOSIS**

“RIGHT BREAST , MASTECTOMY : HIGH GRADE DUCTAL CARCINOMA IN – SITU, 35 MM IN SIZE”.

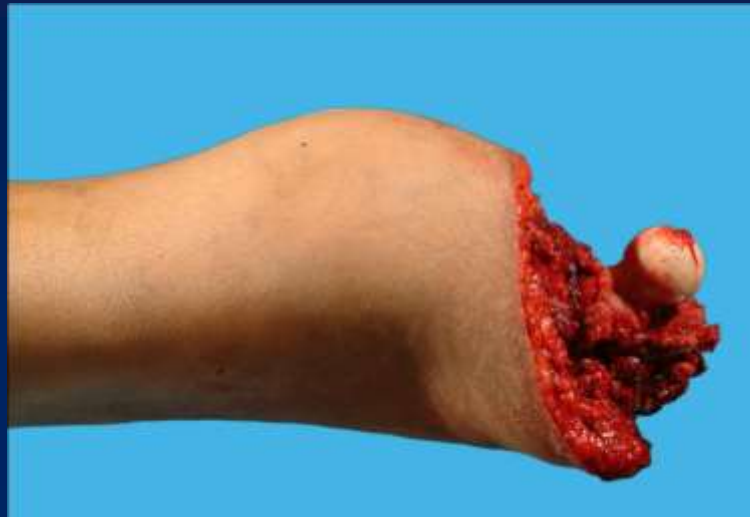
- **PATIENT MANAGEMENT**

- **TREATMENT**

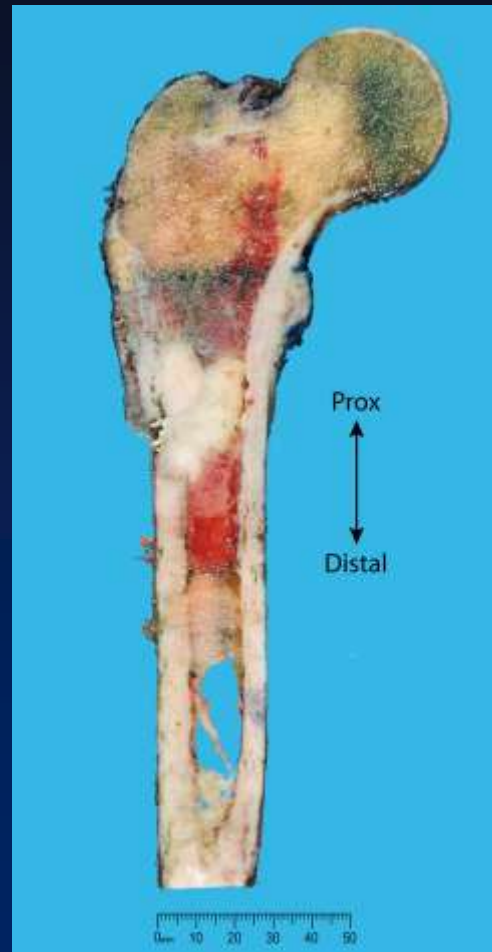
# BONE SPECIMENS

- MIDDLEMORE HOSPITAL IS INVOLVED IN ORTHOPEDIC PATHOLOGY
- LARGE NUMBER OF COMPLEX BONE SPECIMENS
- THE PIXARRAY IS USEFUL FOR XRAYING THE THIN SLICES AND SHOWING END POINT DECALCIFICATION

# CASE 2 (LEG)



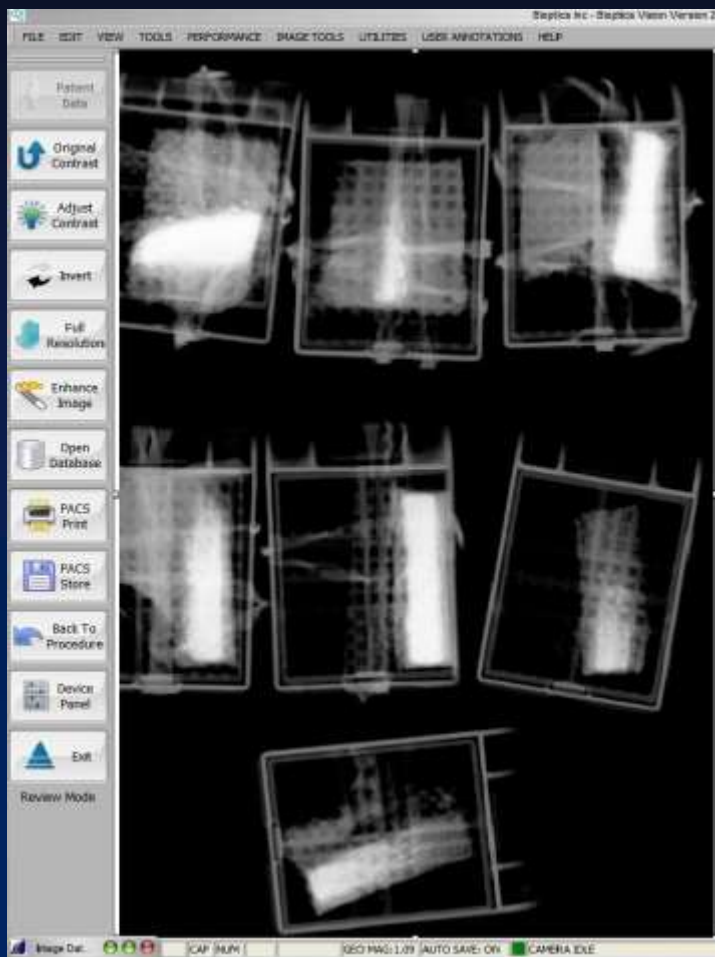
# SLICE OF A FEMUR



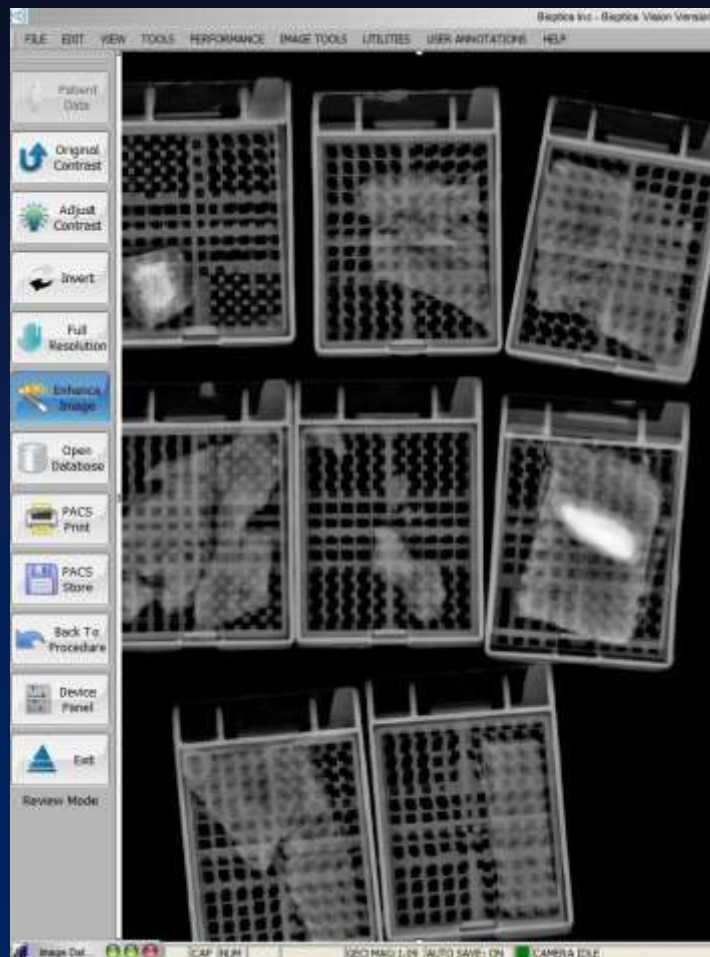
# X-RAY OF THE FEMUR



# REPRESENTATIVE BLOCKS OF FEMUR

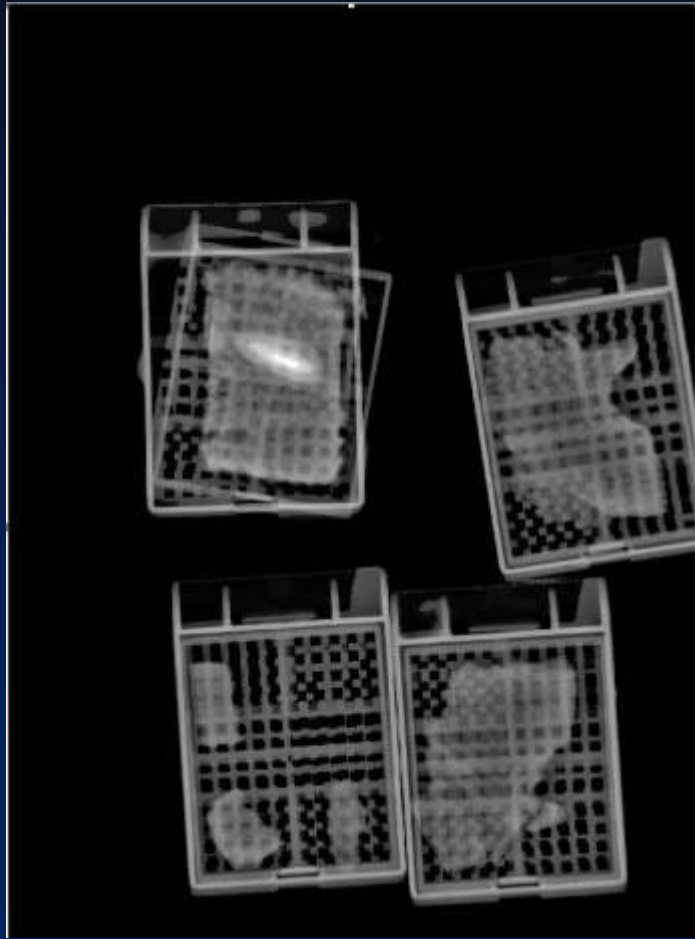


01/09/10

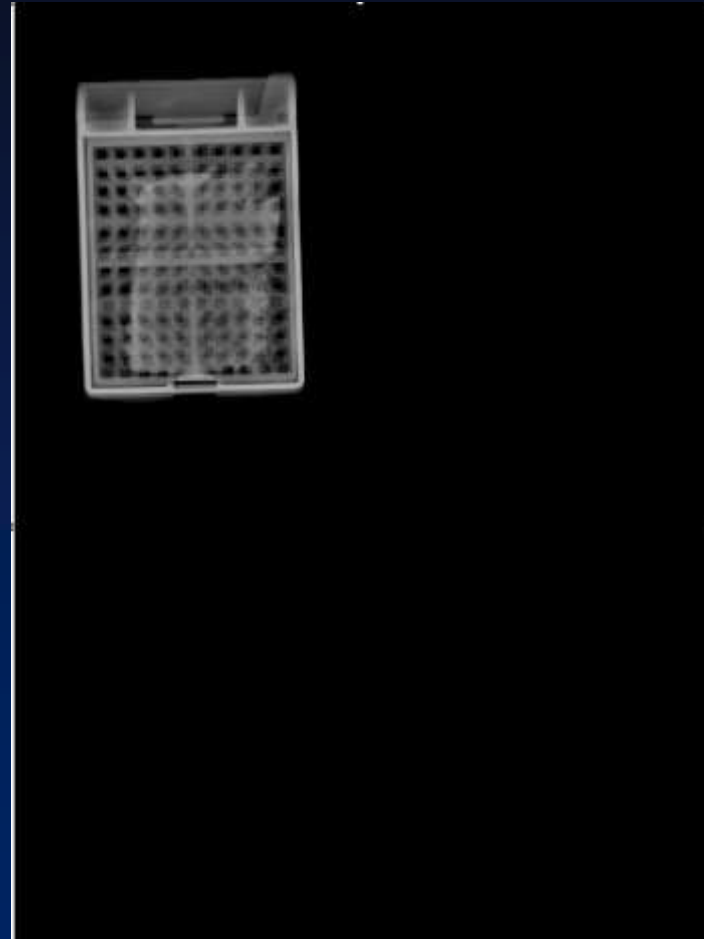


04/09/10

# DECAL CHECKING

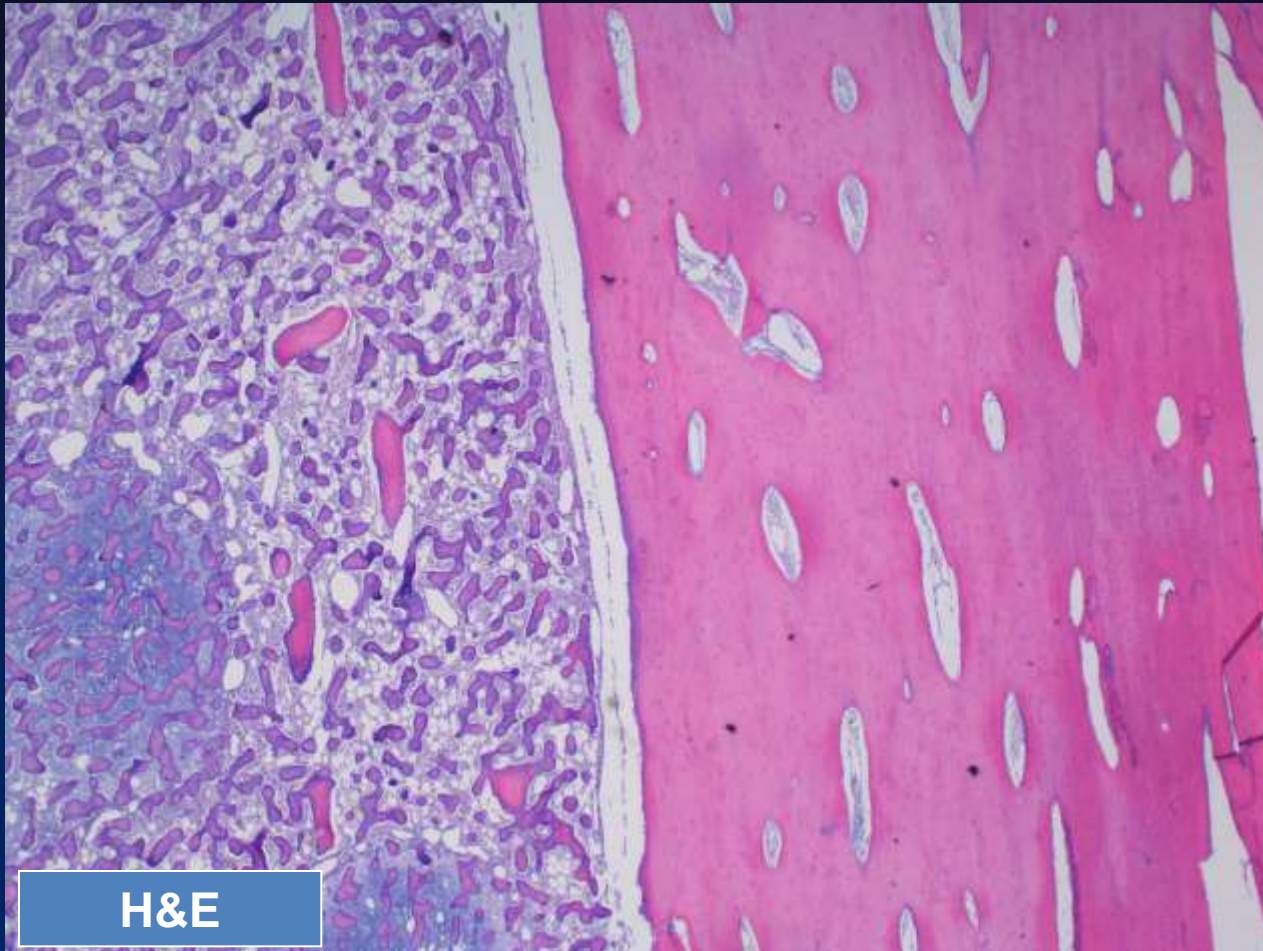


07/09/10



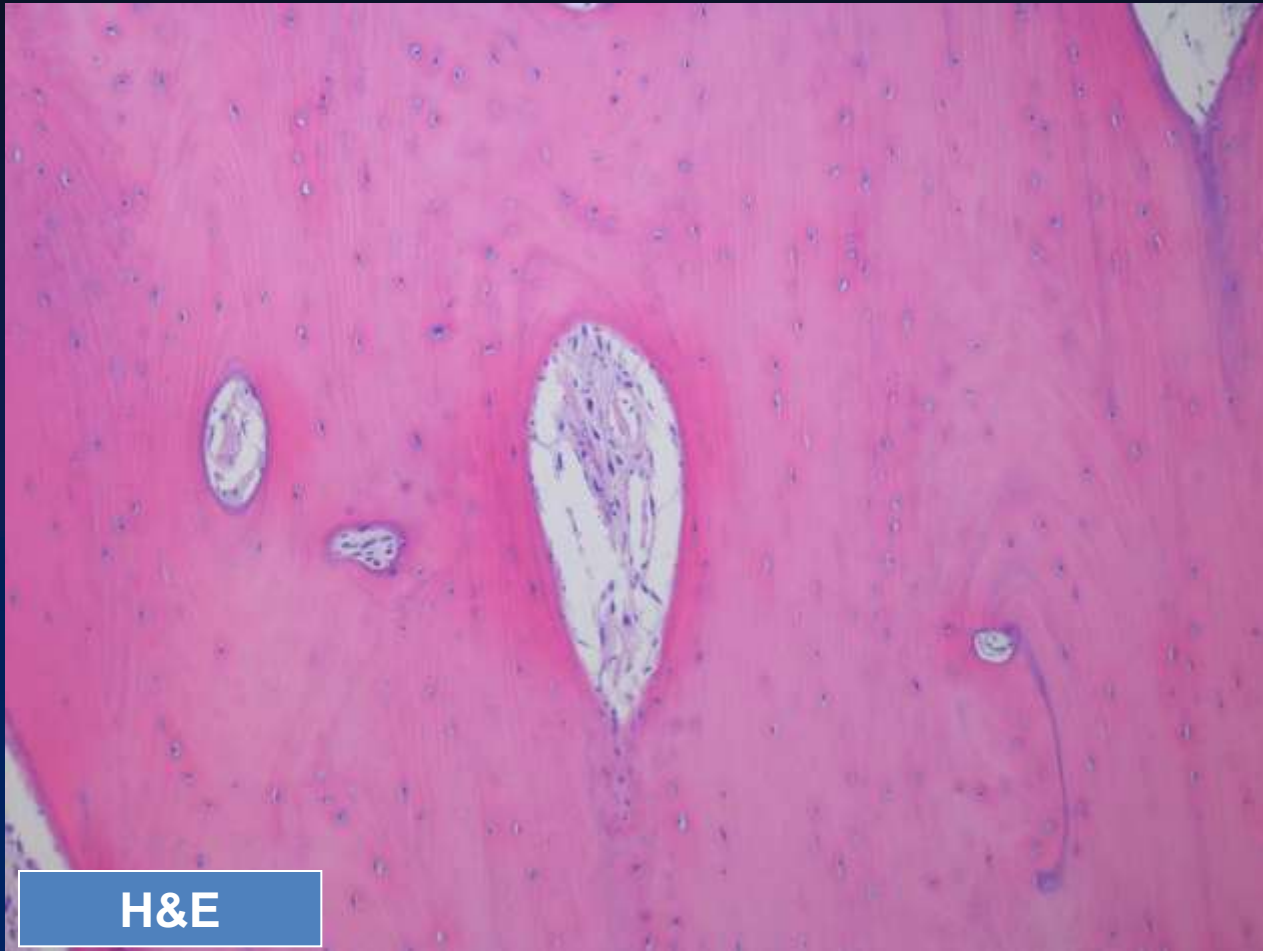
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# FEMUR :DECALCIFIED BONE



H&E

# DENSE BONE

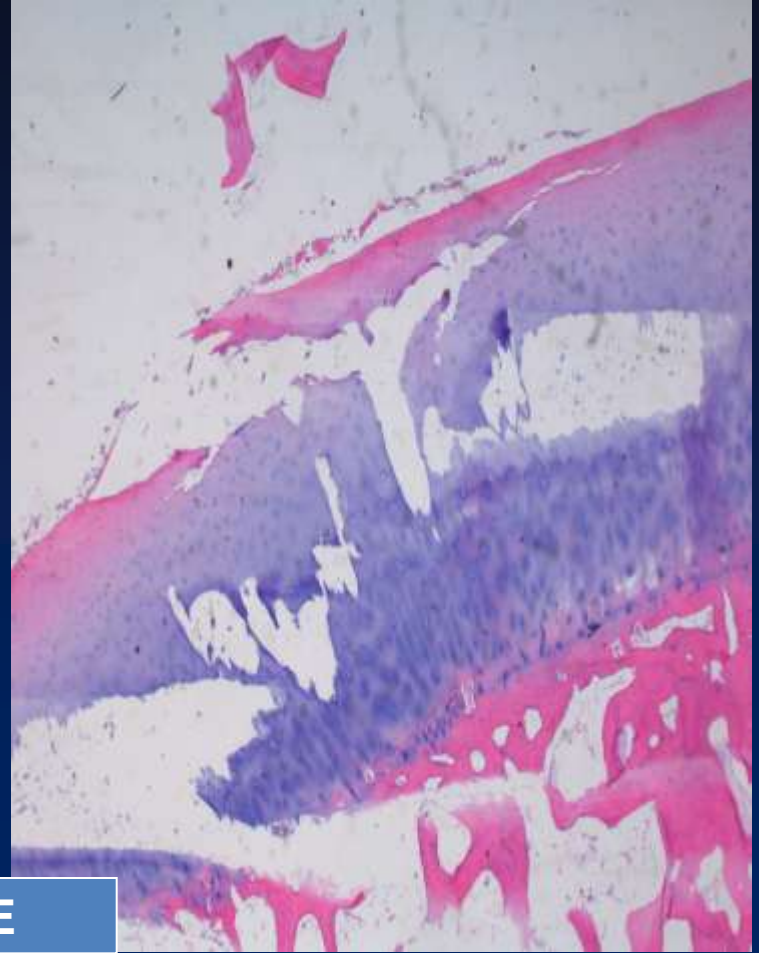


H&E

# INSUFFICIENTLY DECALCIFIED BLOCKS



H&E



# PROS AND CONS

## PROS

- EASY TO USE
- SAVES TIME
- REDUCES TURNAROUND TIMES
- INSTANT X-RAYS
- REDUCES BLOCK NUMBERS
- IMPROVED QUALITY OF BONE SECTIONS
- REFINES SAMPLE AREA OF TUMOR

## CONS

- X-RAY CHAMBER SMALL
- HARD TO CLEAN

# SUMMARY

AFTER USING THE PIXARRAY FOR 18 MONTHS, AND EXPERIENCING THE BENEFITS OF INVESTING IN ONE, AND SEEING THE IMPROVEMENTS IN OUR SERVICES, PARTICULARLY FOR BREASTS AND BONE SPECIMENS, WE WOULD HIGHLY RECOMMEND INVESTING IN THIS TYPE OF EQUIPMENT.

# ACKNOWLEDGMENTS

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