

Patient Positioning for Orthopedic Radiographic Studies

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Basic Principles

Label

Clinic Name

Patient Name

Client Name

Date

PennHip: ID #

OFA: AKC #

R/L Markers: Lateral side of limb

Size Reference Marker

“Digital X-ray Calibration Ball”



0.955" = 2.426 cm

Basic Principles- Viewing

Going to the left

"Looking" from the Front

Going to the left



Scapula

PEER REVIEWED

RADIOLOGY/IMAGING

Small Animal Radiography of the Scapula, Shoulder, & Humerus

Issue: **May/June 2012**

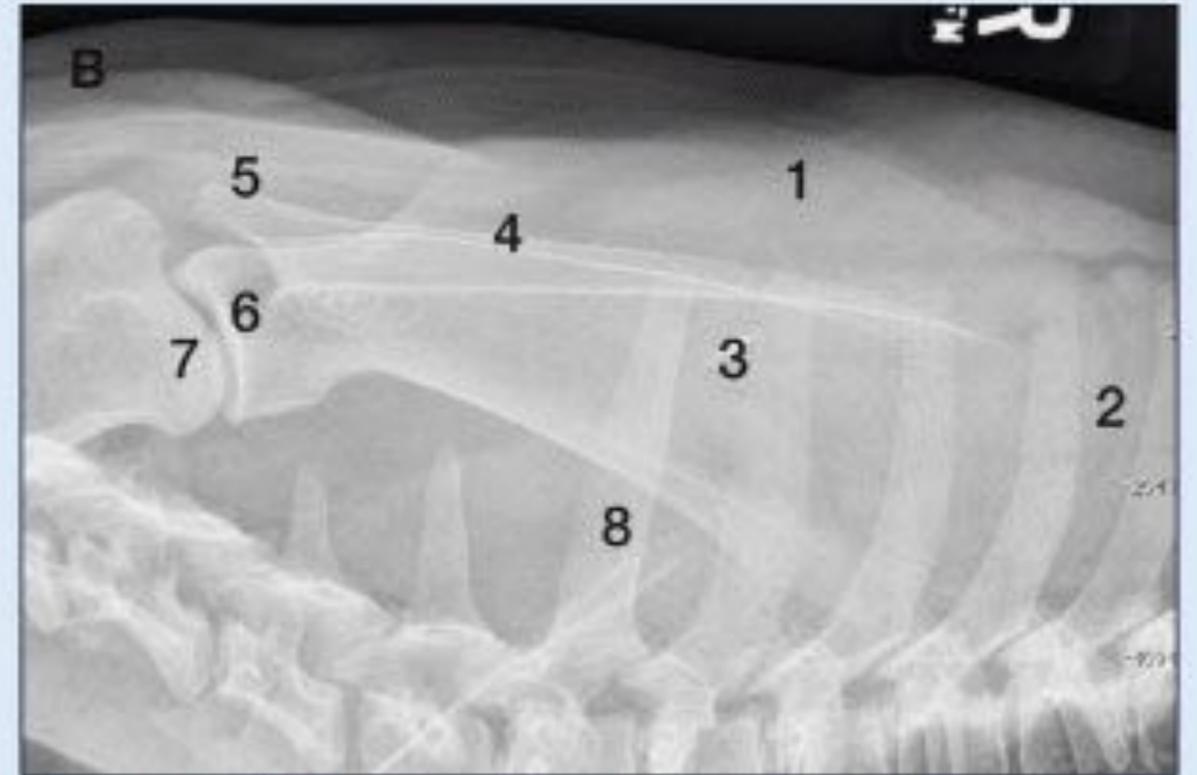


Danielle Mauragis
CVT ✓



Clifford R. Berry
DVM, DACVR ✓

Figure 1. (A) Dog positioned for lateral radiograph of the scapula; note that the affected limb is “pushed” dorsal to the thoracic spinous processes. (B) Radiographic image from dog in Figure 1A; note how the shoulder joint and entire scapula are visualized in this view. Geometric distortion will probably be present as the torso of the dog/cat is rotated dorsally in order to minimize the superimposition of the scapula and the cervical and thoracic vertebrae. Legend: 1 = supraspinous fossa; 2 = caudal border of the scapula; 3 = infraspinous fossa; 4 = spine of the scapula; 5 = acromion process of the spine of the scapula; 6 = glenoid cavity; 7 = head of humerus; 8 = spinous process of T1



Scapula

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Figure 2. (A) Dog positioned for caudocranial radiograph of the scapula. (B) Radiographic image from dog in Figure 2A; note how the shoulder joint and entire scapula are visualized in this view. Legend: 1 = body of right scapula; 2 = spine of scapula; 3 = acromion of scapula; 4 = neck of scapula; 5 = glenoid cavity

Shoulder Radiographs

Lateral ("Superman")

CdCr

Skyline

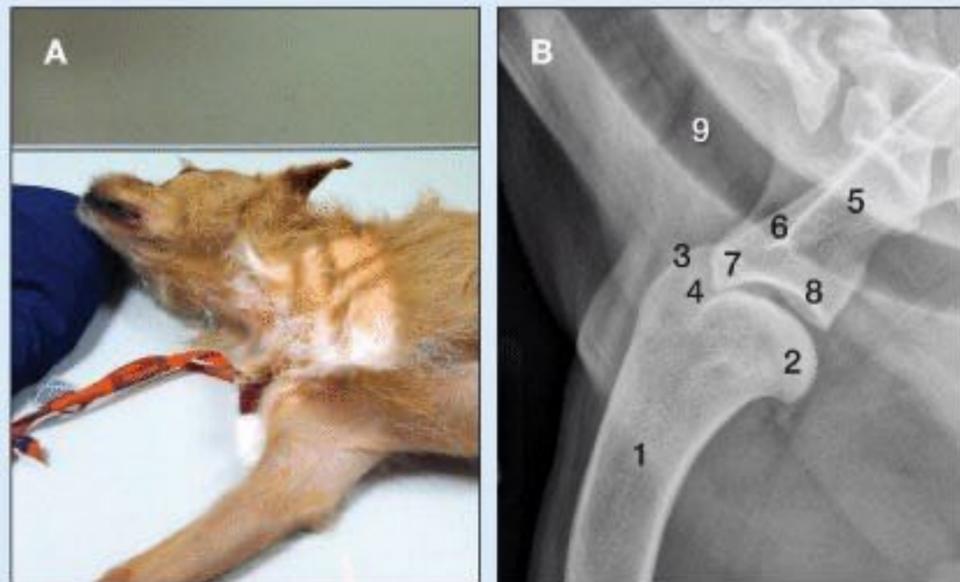
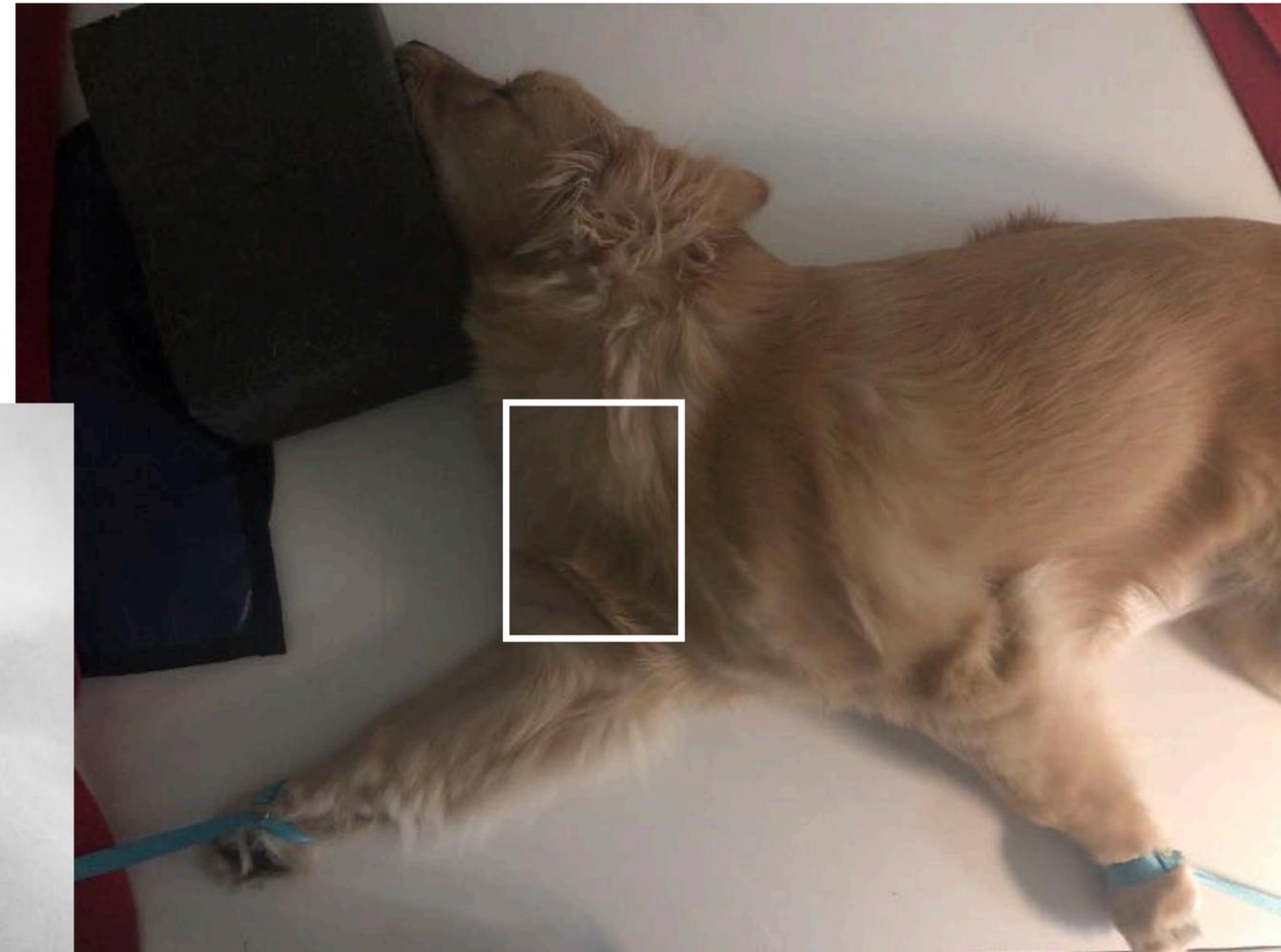
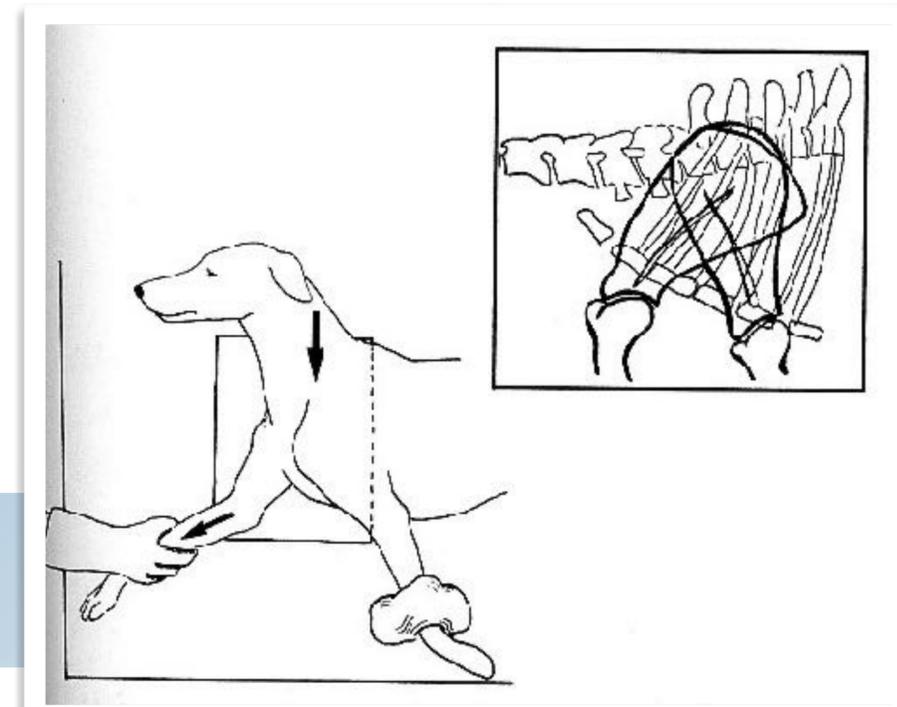


Figure 3. (A) Dog positioned for mediolateral radiograph of shoulder joint. (B) Radiographic image from dog in Figure 3A; note the shoulder joint and position of the cervical spine and trachea. The other shoulder joint is pulled caudally to prevent superimposition. Legend: 1 = humerus; 2 = humeral head; 3 = greater tubercle; 4 = intertubercular groove; 5 = scapula; 6 = acromion process of the spine of the scapula; 7 = supraglenoid tubercle (cranial aspect of glenoid cavity); 8 = glenoid cavity; 9 = trachea



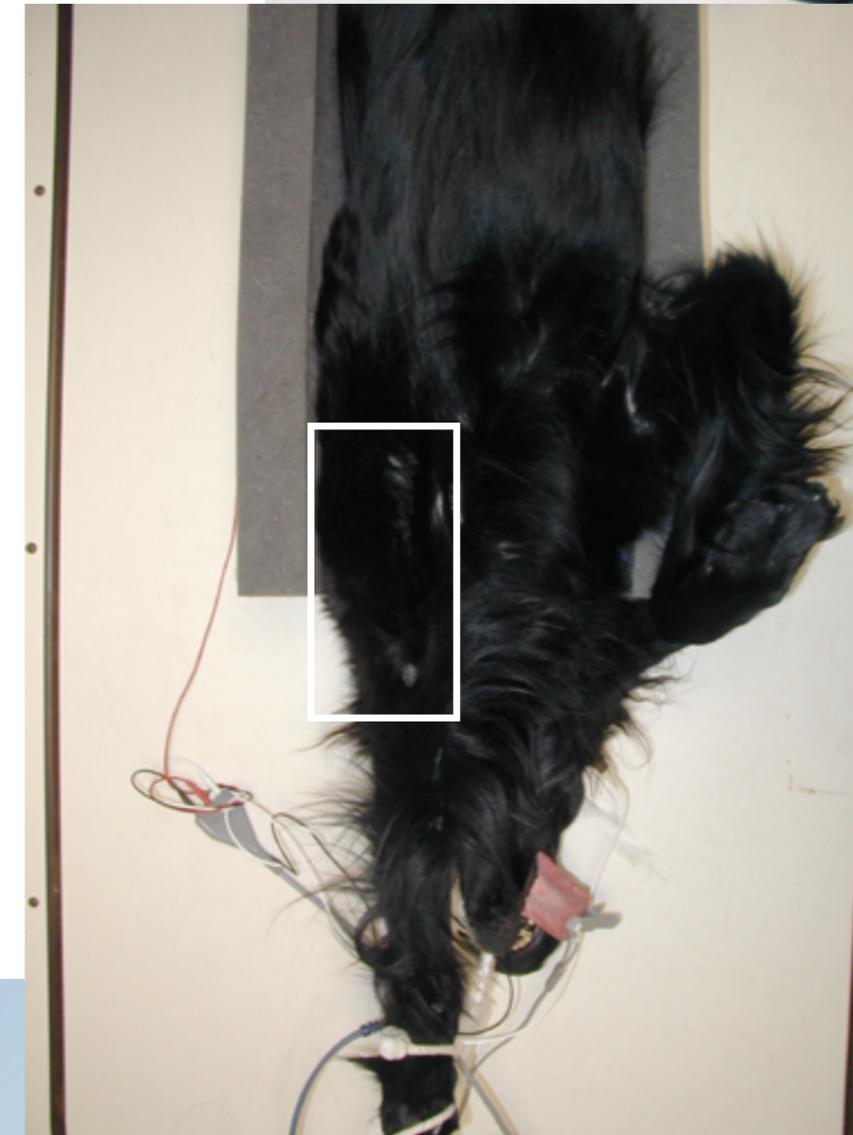
Shoulder Radiographs

Lateral ("Superman")
CdCr



Figure 4. (A) Dog positioned for caudocranial radiograph of the shoulder joint. (B) Radiographic image from dog positioned in Figure 4A.

Legend: 1 = humerus; 2 = scapula; 3 = acromion process of the spine of the scapula; 4 = glenoid cavity of scapula; 5 = humeral head



Shoulder Radiographs

Lateral ("Superman")

CdCr

Skyline

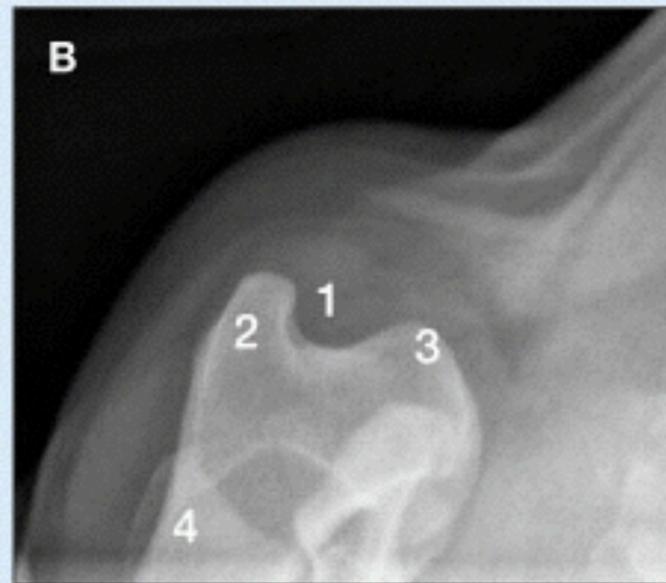
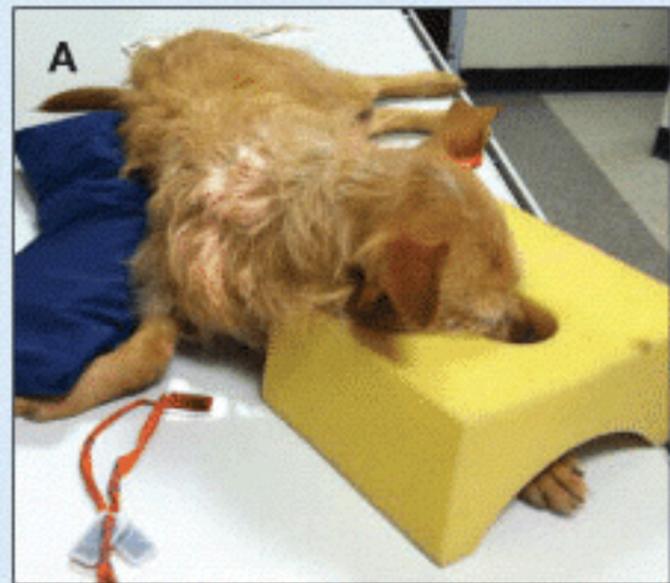
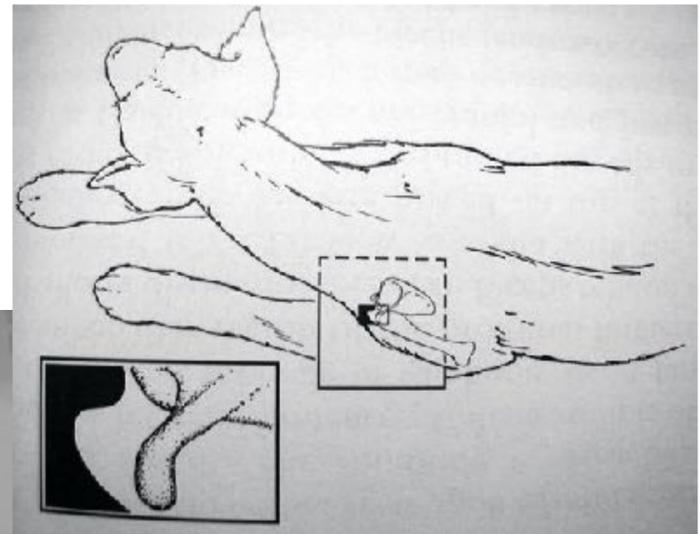
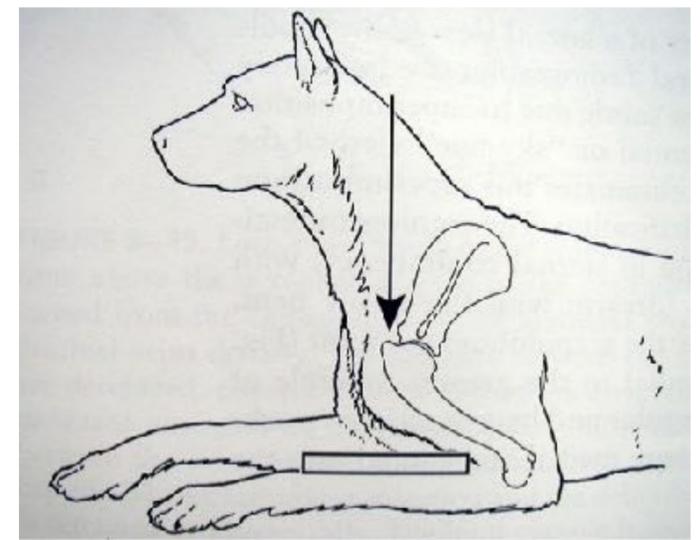


Figure 7. (A) Dog positioned for proximocranial to distocranial skyline radiograph of the cranial proximal humerus and intertubercular groove. (B) Radiographic image from dog in Figure 7A. Legend: 1 = intertubercular (bicipital) groove; 2 = greater tubercle; 3 = lesser tubercle of humerus; 4 = spine of scapula superimposed over proximal humeral diaphysis



Humerus Radiographs

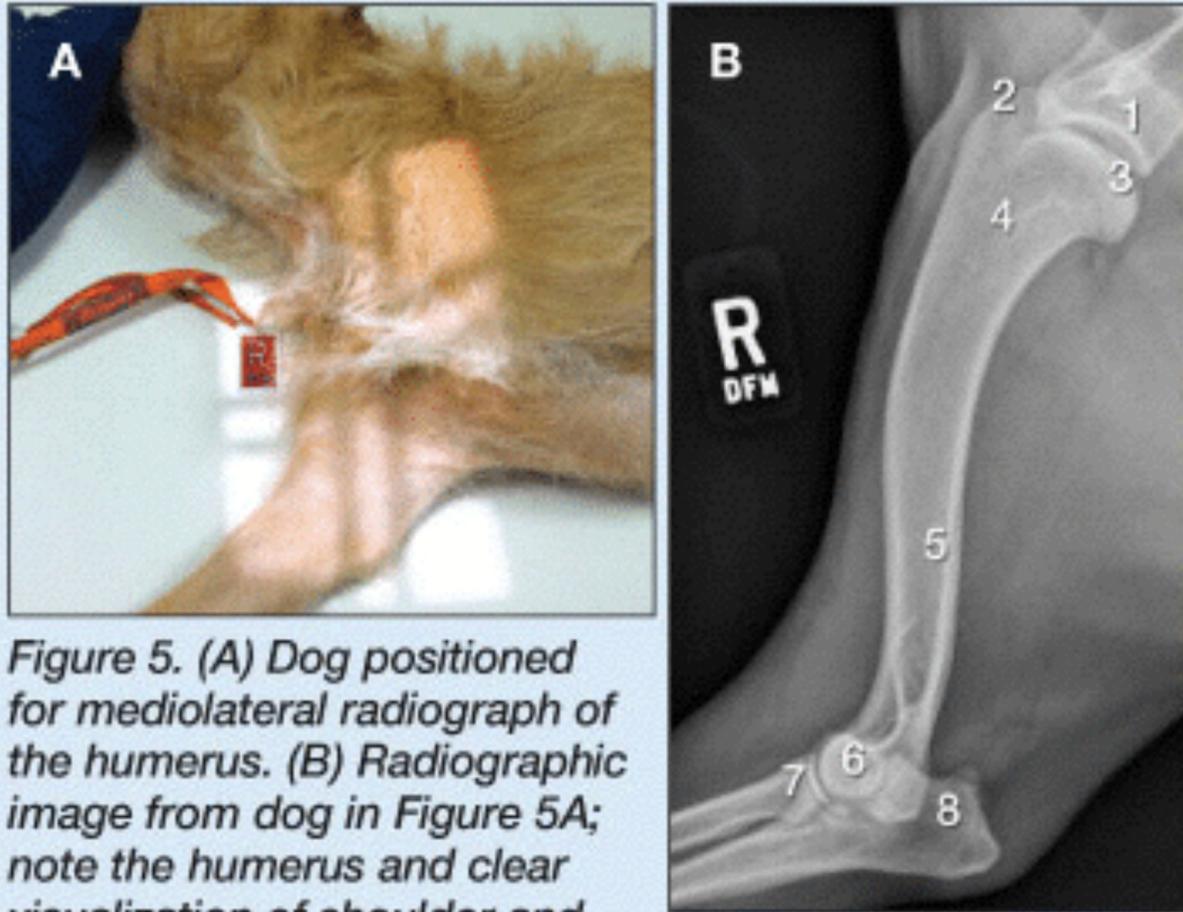


Figure 5. (A) Dog positioned for mediolateral radiograph of the humerus. (B) Radiographic image from dog in Figure 5A; note the humerus and clear visualization of shoulder and cubital joints.

Legend: 1 = glenoid cavity of scapula; 2 = greater tubercle; 3 = humeral head; 4 = proximal humeral metaphysis; 5 = nutrient canal of the caudal cortex of humeral diaphysis; 6 = distal humeral condyle; 7 = radial head; 8 = olecranon of ulna

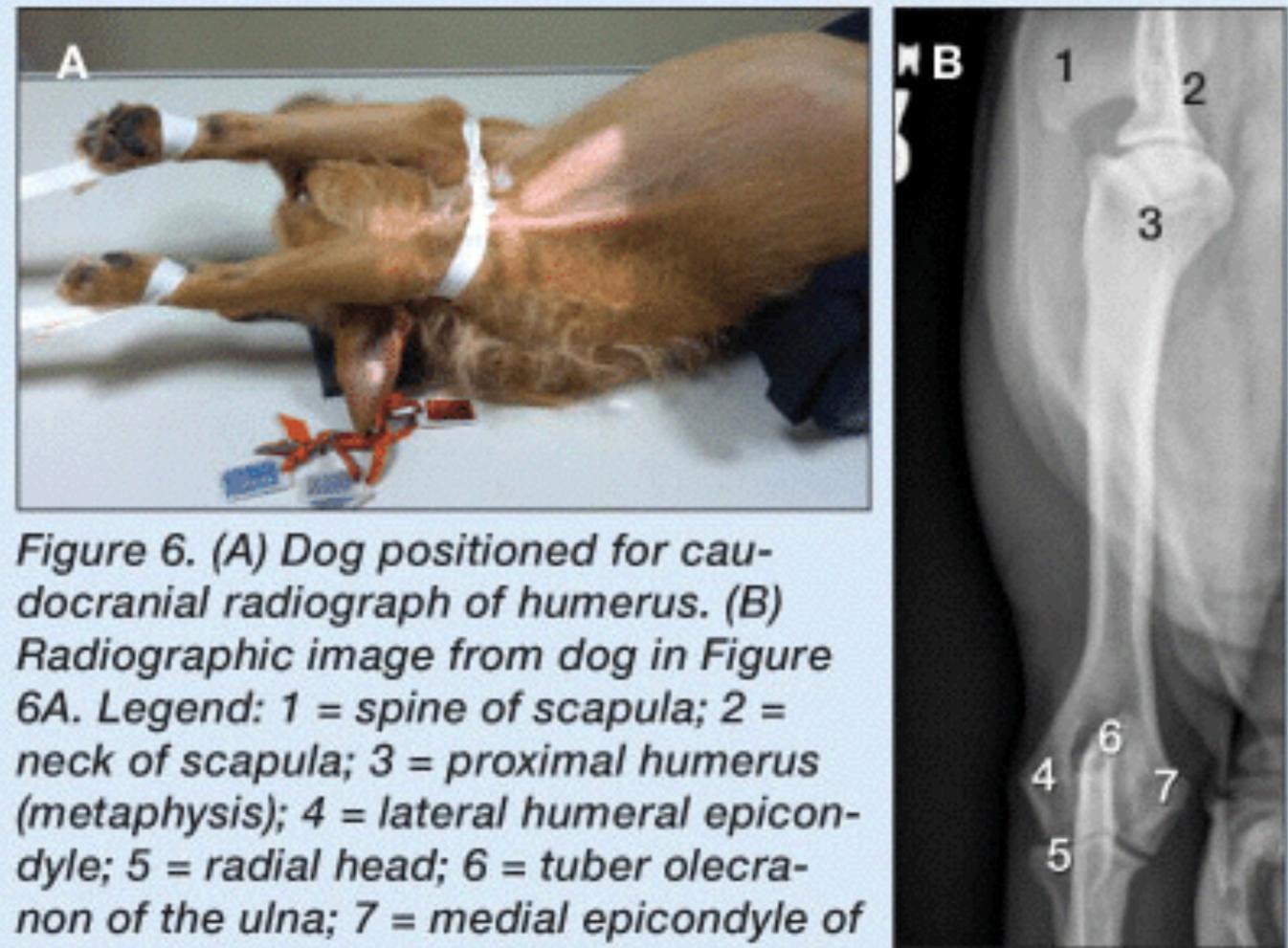


Figure 6. (A) Dog positioned for caudocranial radiograph of humerus. (B) Radiographic image from dog in Figure 6A. Legend: 1 = spine of scapula; 2 = neck of scapula; 3 = proximal humerus (metaphysis); 4 = lateral humeral epicondyle; 5 = radial head; 6 = tuber olecranon of the ulna; 7 = medial epicondyle of the distal humerus

Long Bones Radiographs- Humerus

2 Views: Lateral and CrCd/CdCr
Cent
Incl



Long Bones Radiographs- Humerus



dCr
ne
t



Elbow Radiographs

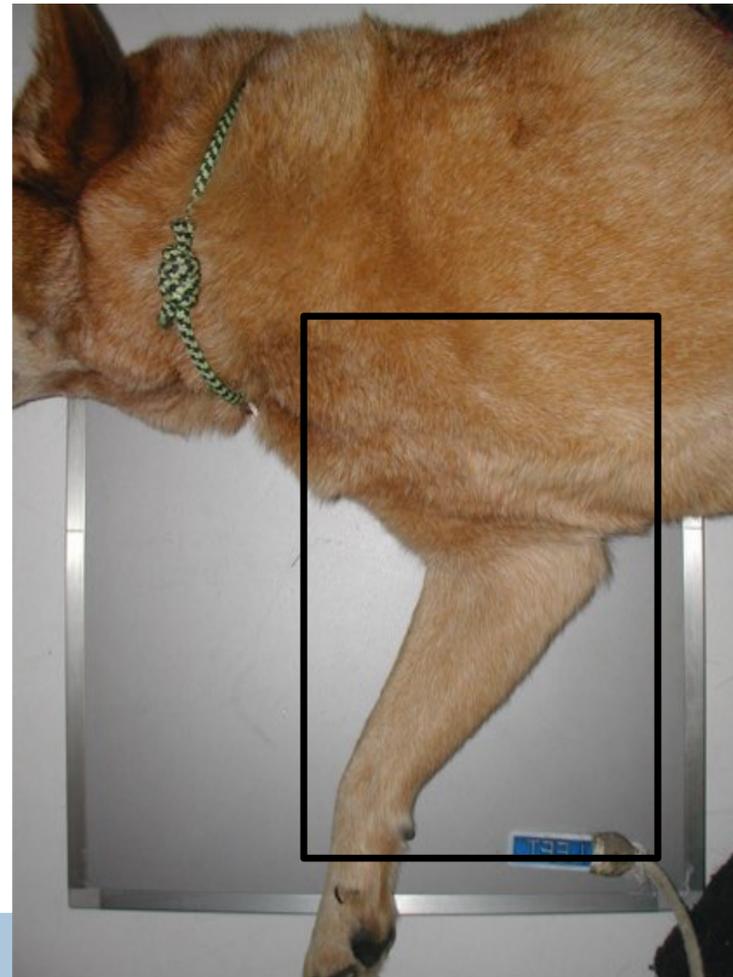
4 View Study

Lateral

Flexed Lateral

CrCD (AP) : Include Carpus

CrCD 10°: Cone Down



Elbow Radiographs

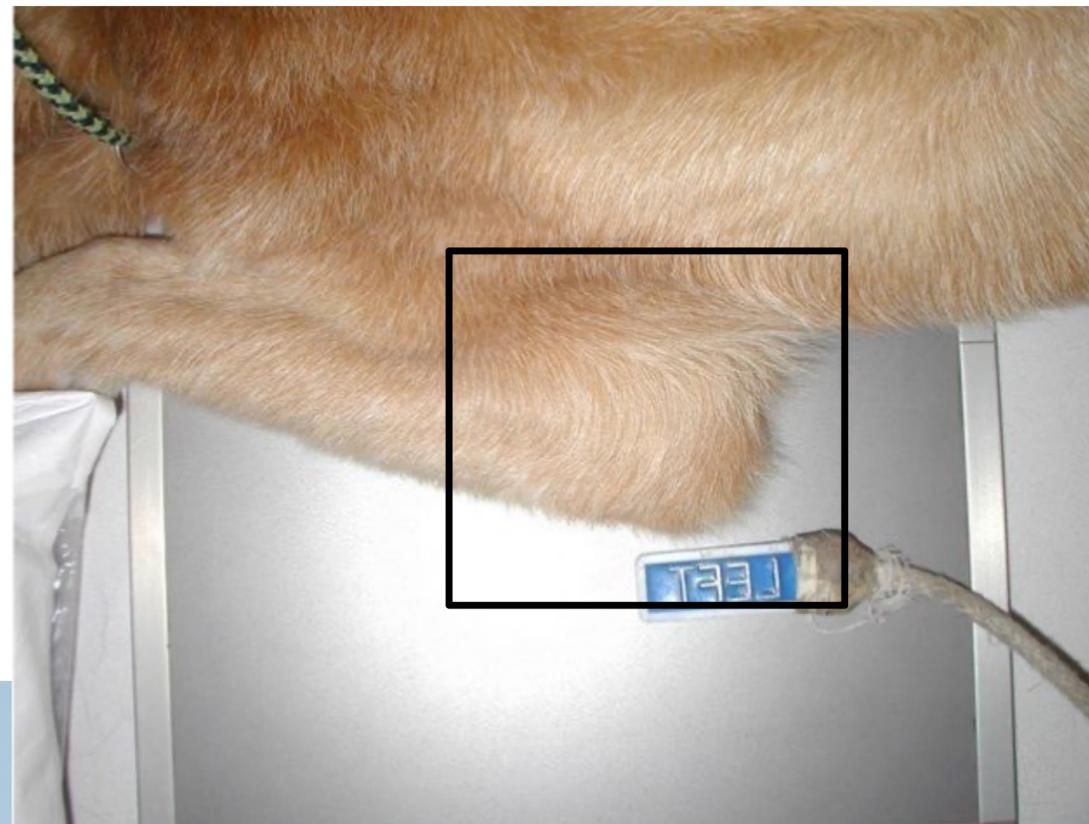
4 View Study

Lateral

Flexed Lateral

CrCD (AP) : Include Carpus

CrCD 10°: Cone Down



Elbow Radiographs

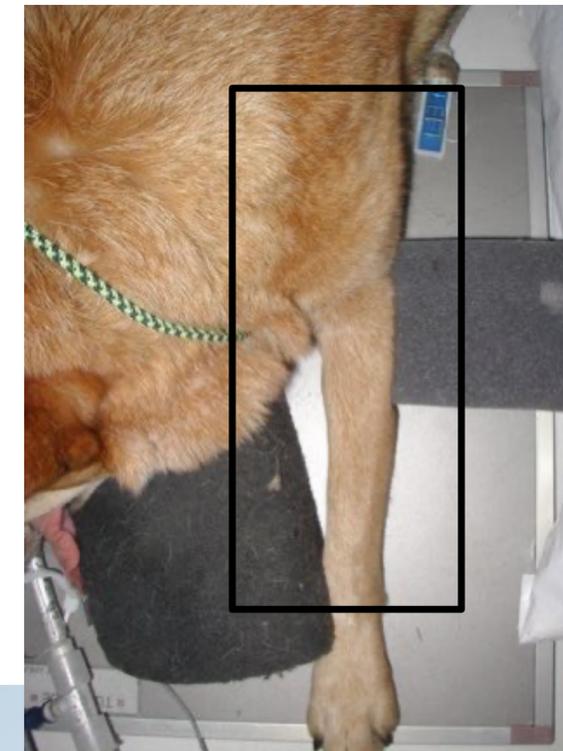
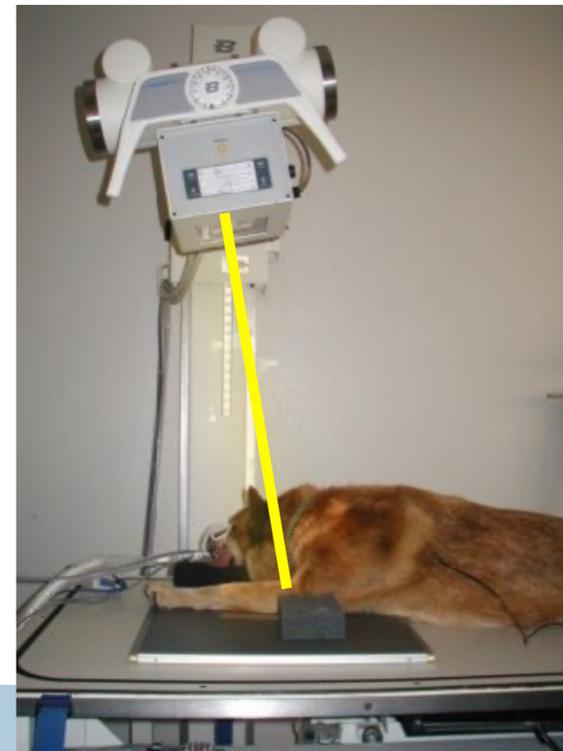
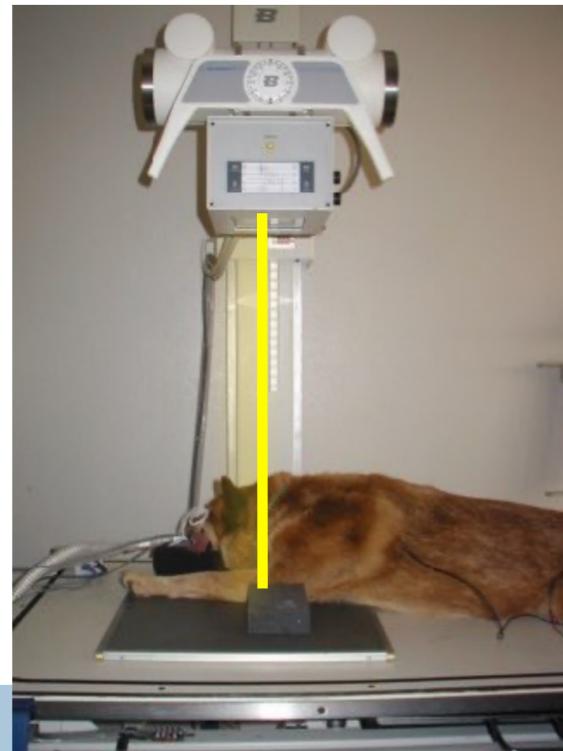
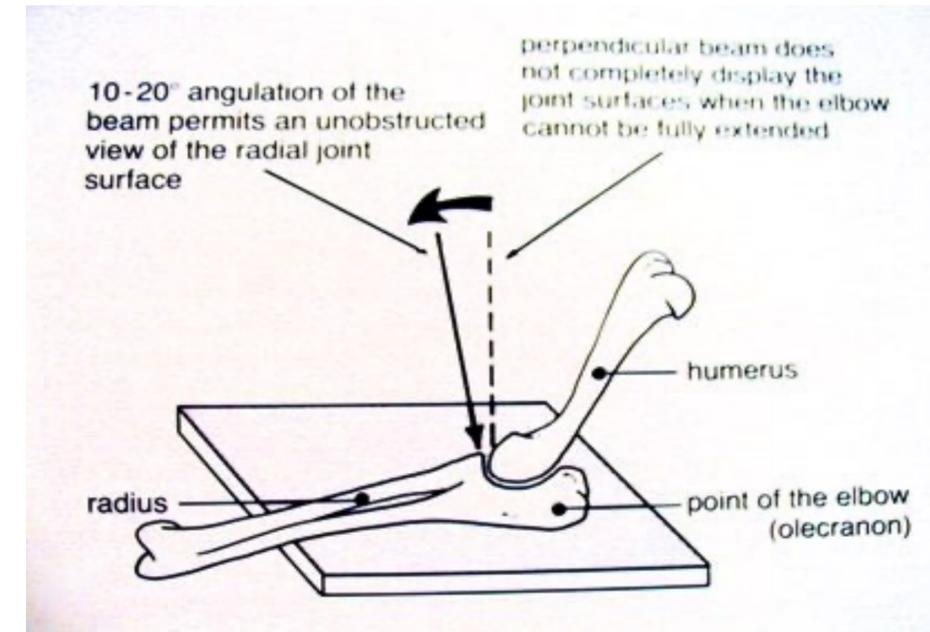
4 View Study

Lateral

Flexed Lateral

CrCD (AP) : Include Carpus

CrCD 10°: Cone Down



Elbow Radiographs

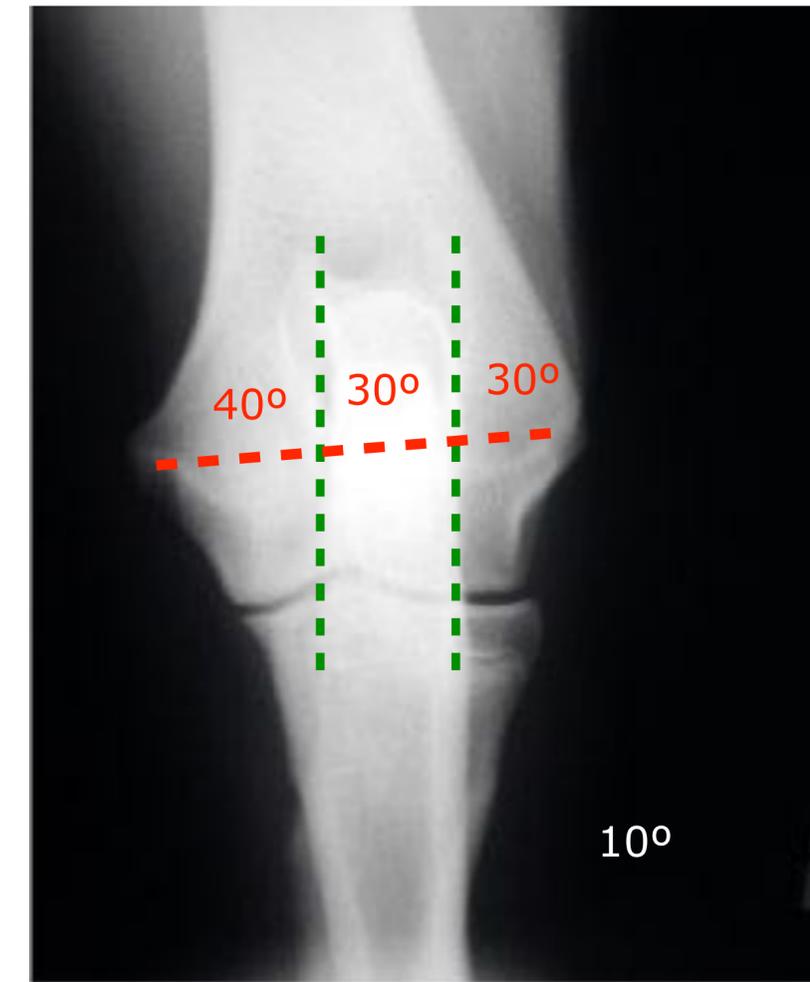
4 View Study

Lateral

Flexed Lateral

CrCD (AP) : Include Carpus

CrCD 10°: Cone Down



Carpus Radiographs

CrCd and Lateral
Stress Views

Hyperextension

Valgus/Varus

Skyline View



Carpus Radiographs

CrCd and Lateral
Stress Views

Hyperextension

Valgus/Varus

Skyline View



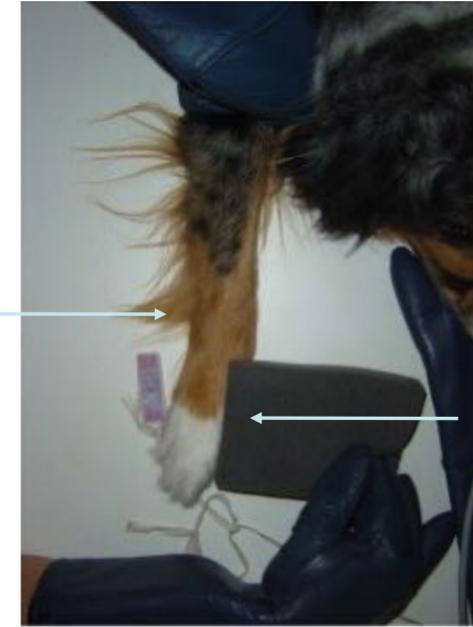
Carpus Radiographs

CrCd and Lateral
Stress Views

Hyperextension

Valgus/Varus

Skyline View



Hip/Pelvis Radiographs in Mature Patient

2 Views



Lateral



VD: Hip Extended

Lateral Pelvis

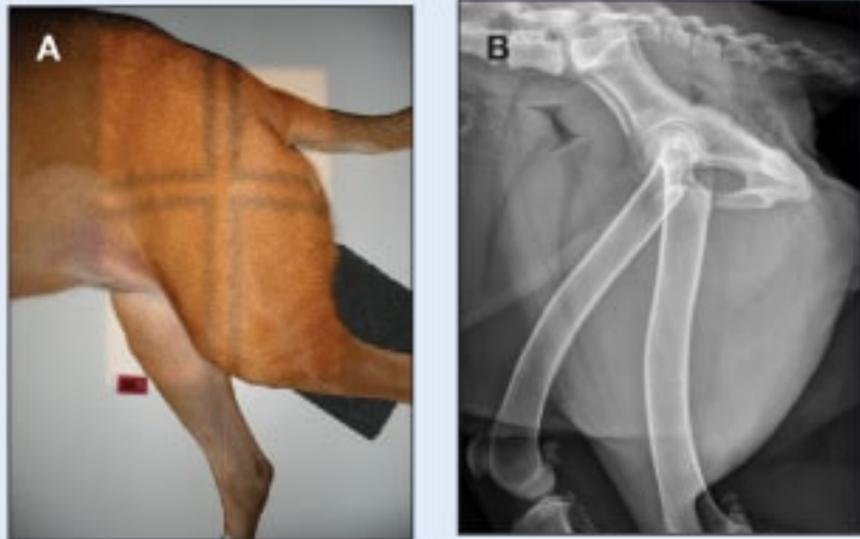
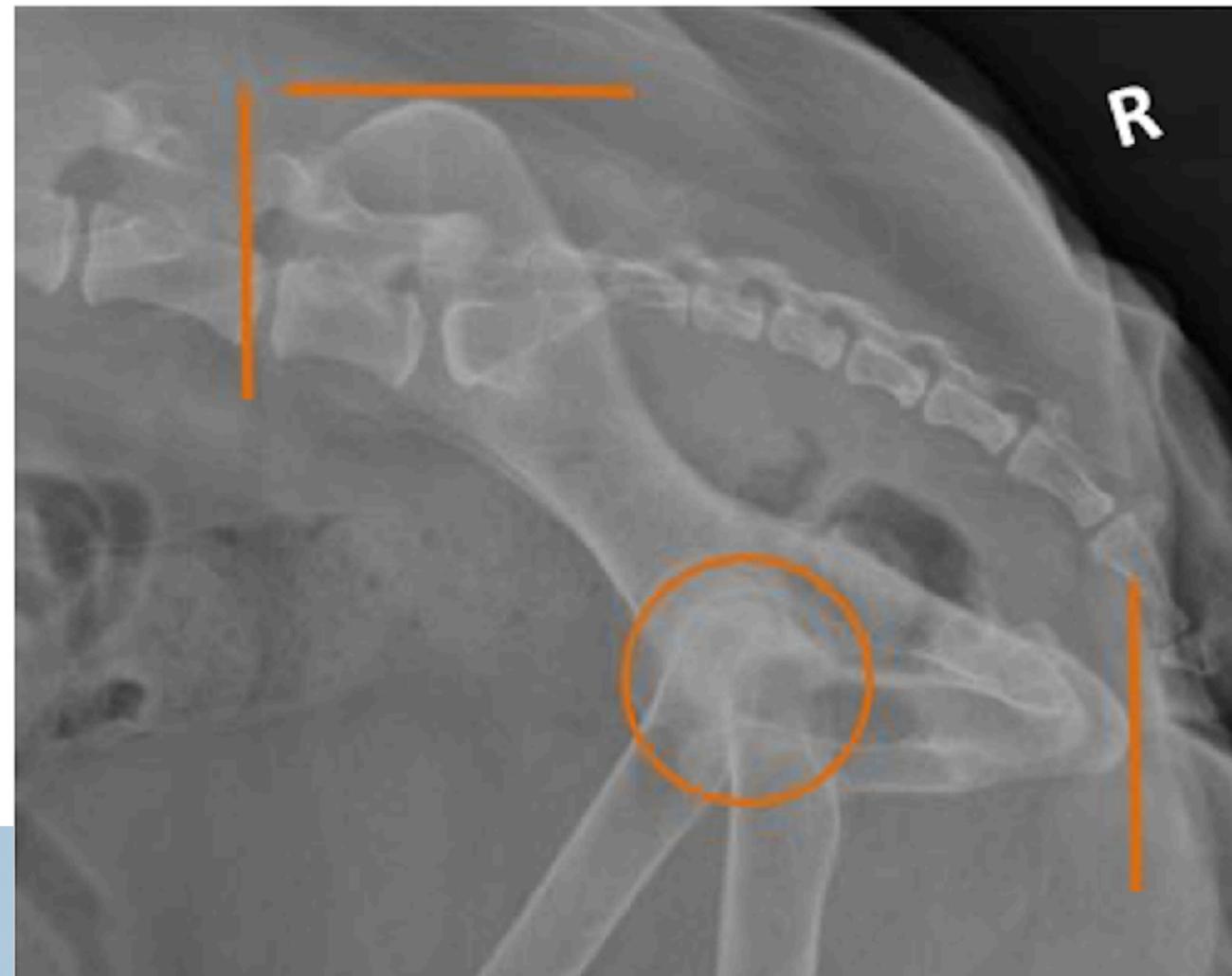
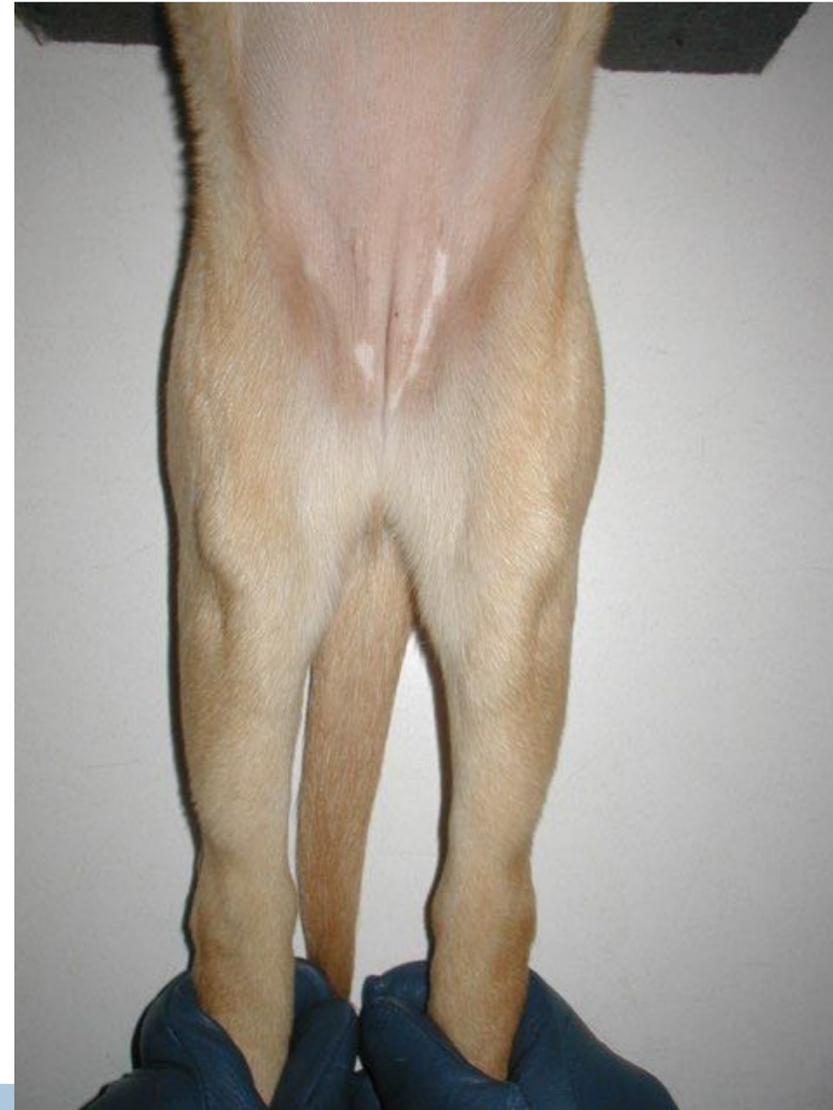


Figure 1. Lateral Radiograph of Pelvis
(A) Dog positioned for a lateral radiograph of the pelvis. Note the sponge placed between the right and left pelvic limbs and, in this case, the right pelvic limb has been pulled cranially in a scissors fashion. (B) Right lateral radiograph of the pelvis from the dog in A.

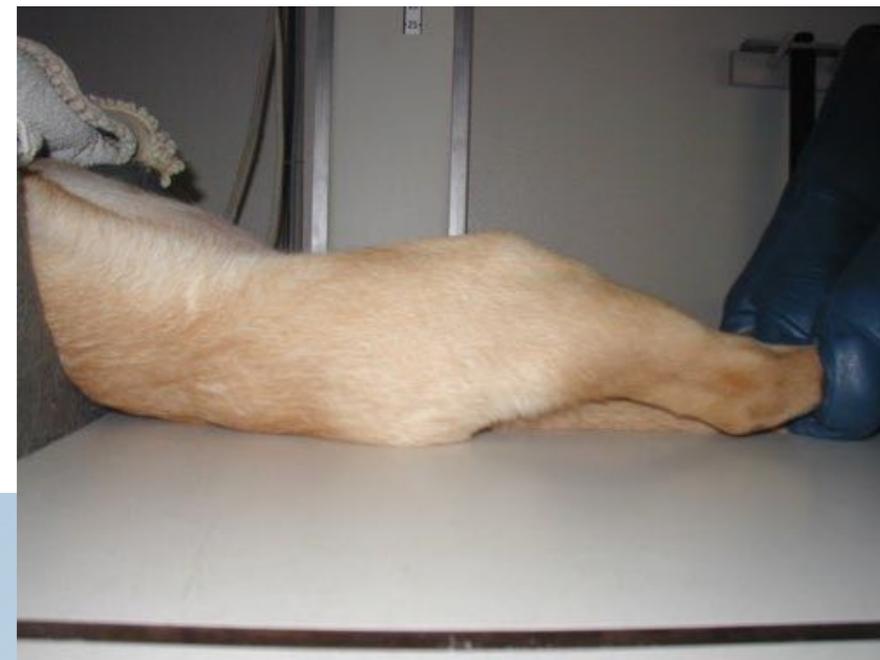


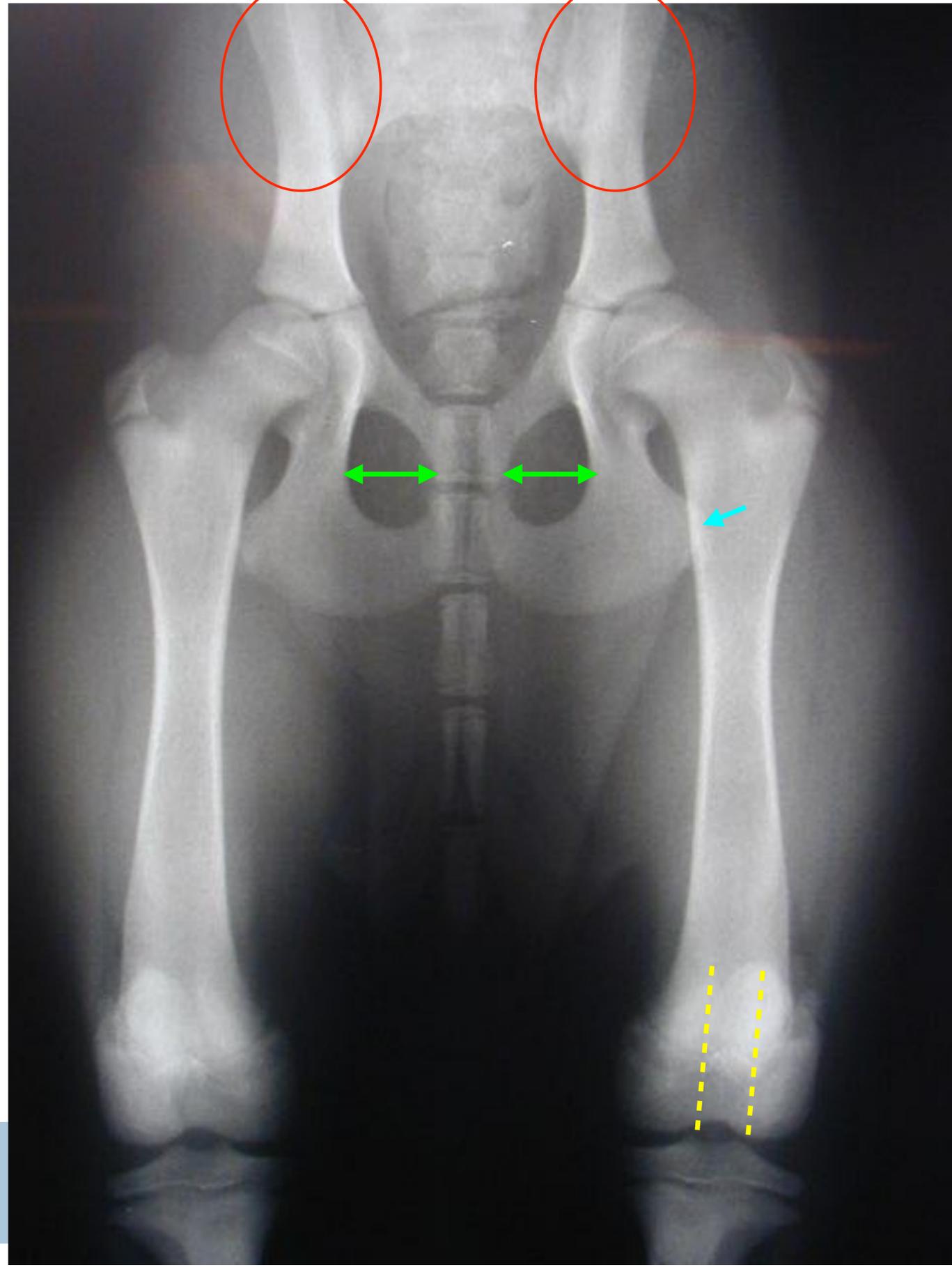
Hip Radiographs in Young Dog

VD Hip Extended View



Tip: Rotate stifles inward before pulling legs down.





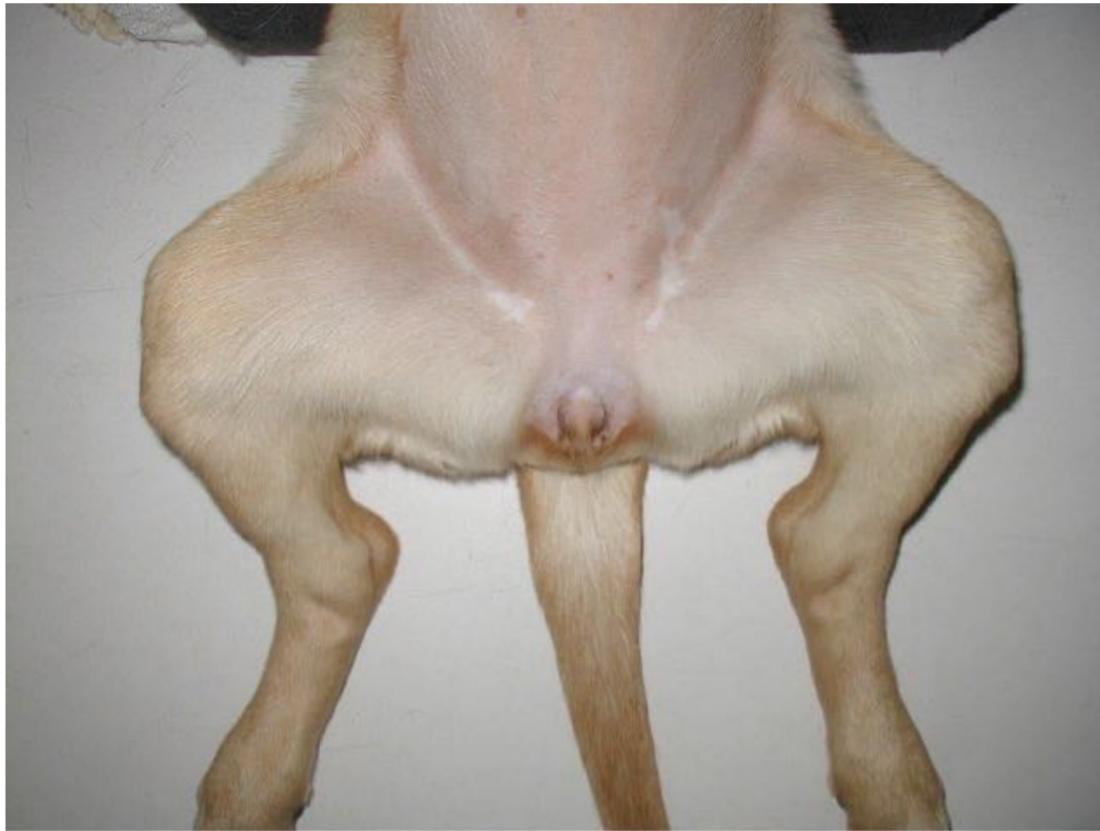
Hip Radiographs in Young Dog

PennHip® Distraction View

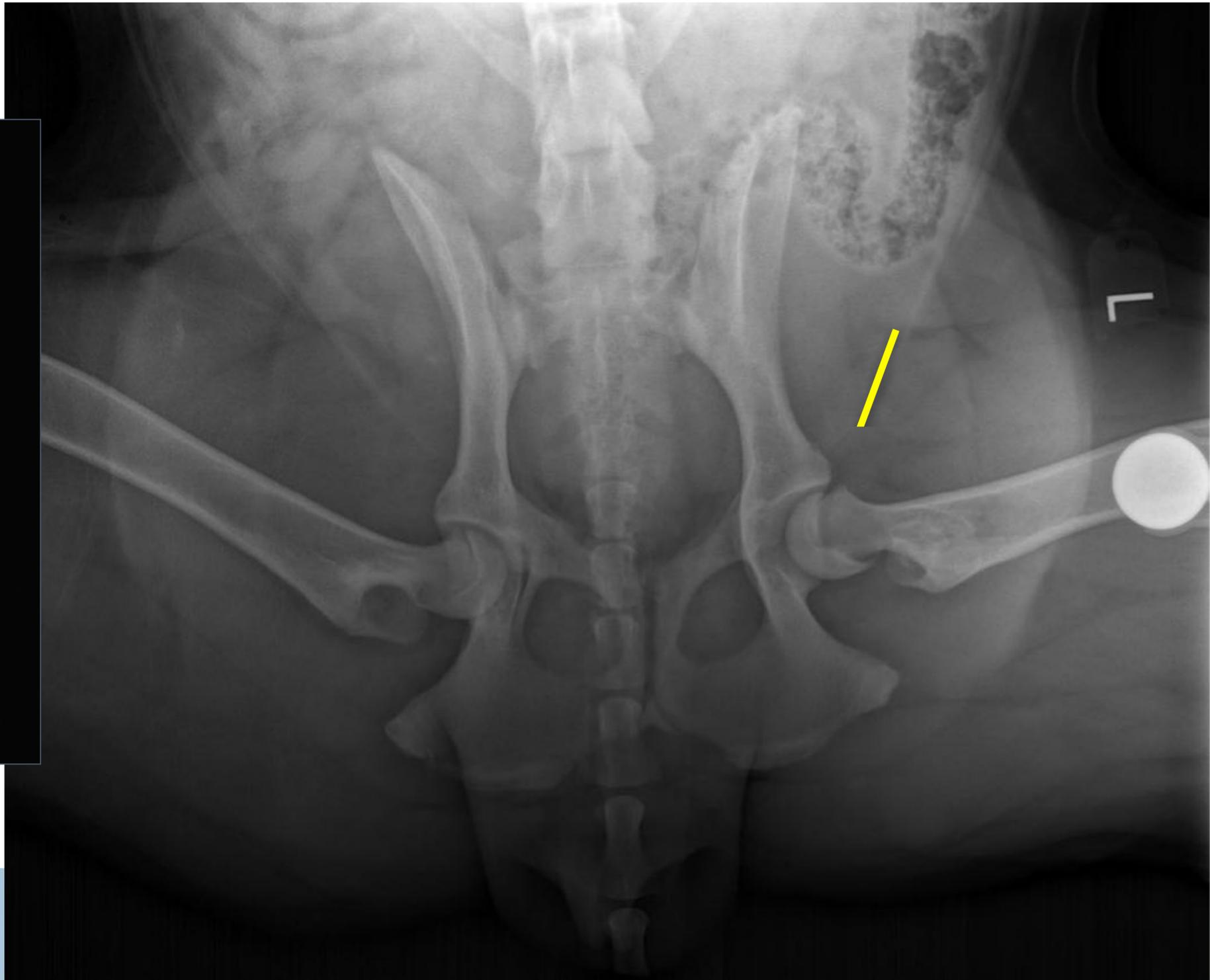


Hip Radiographs in Young Dog

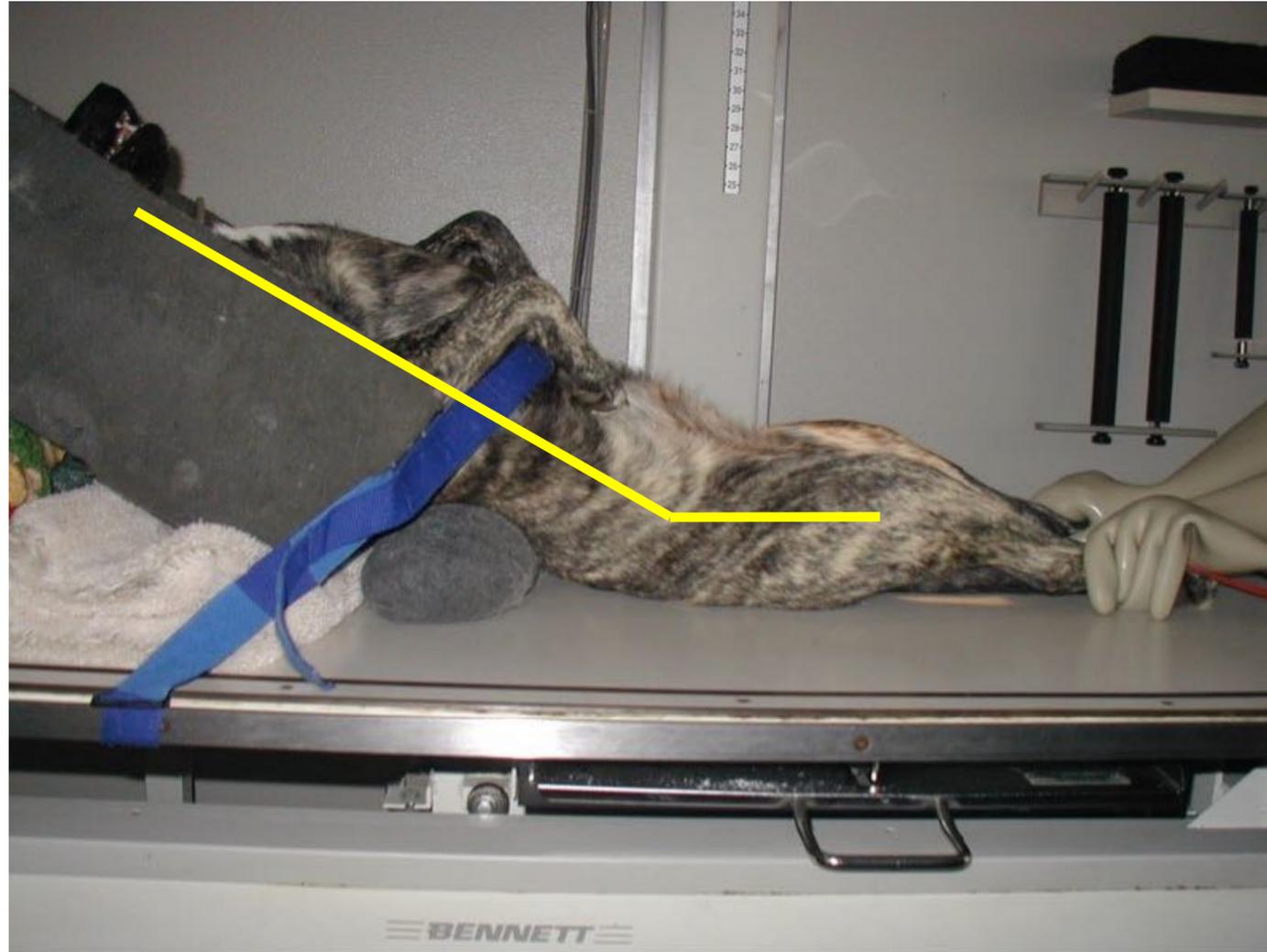
Frog Leg View



Hip Radiographs in Young Dog



Hind Limb Alignment Radiographs- Femur



25-30° Tilted Pelvis View



Long Bones Radiographs- Femur



Femur//Stifle

2 Views

Lateral and CdCr

Special Consideration

TPLO Candidate

Full Tibia

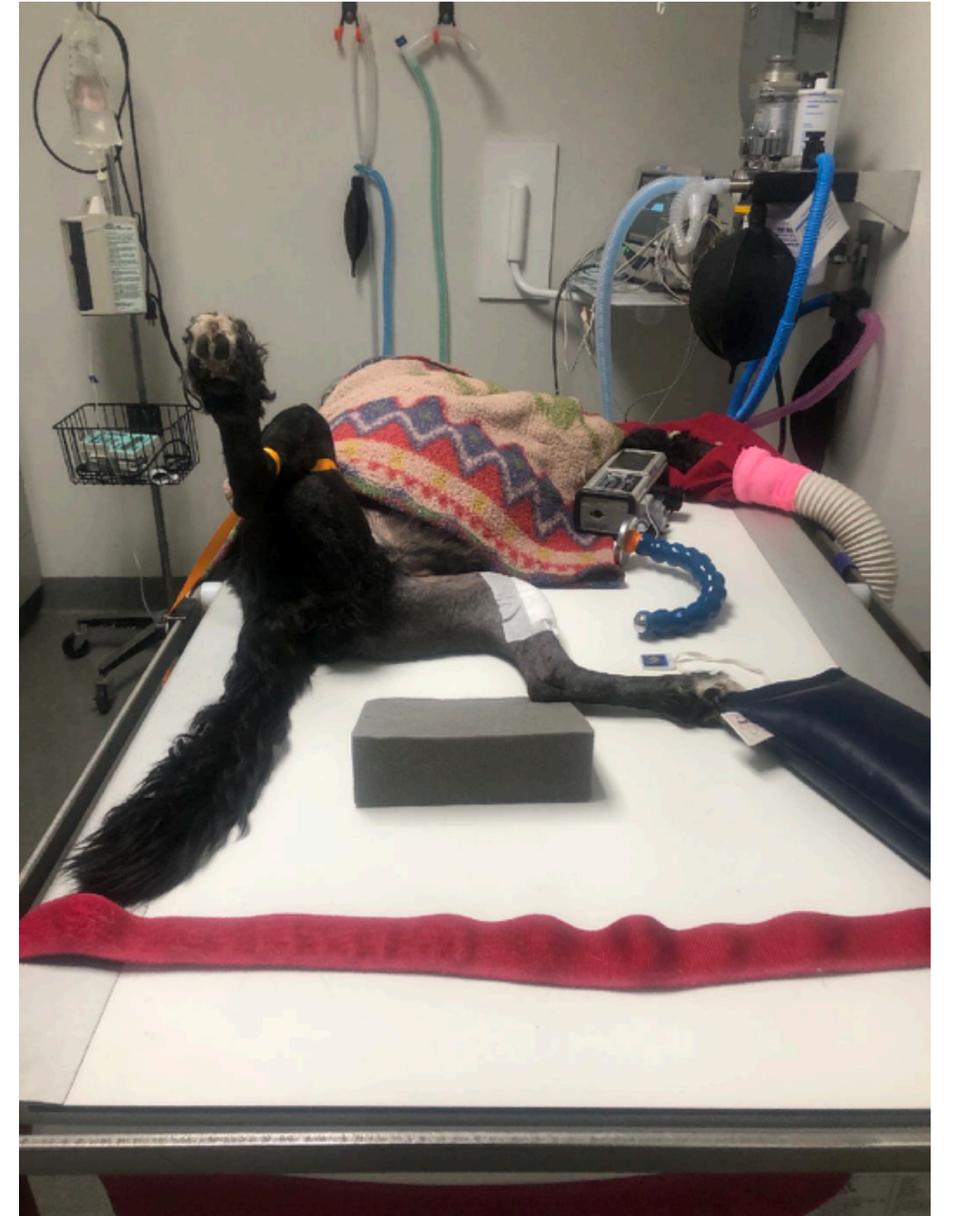
Patella Luxation

VD Pelvis/Tilted

Skyline View



Stress Free Positioning

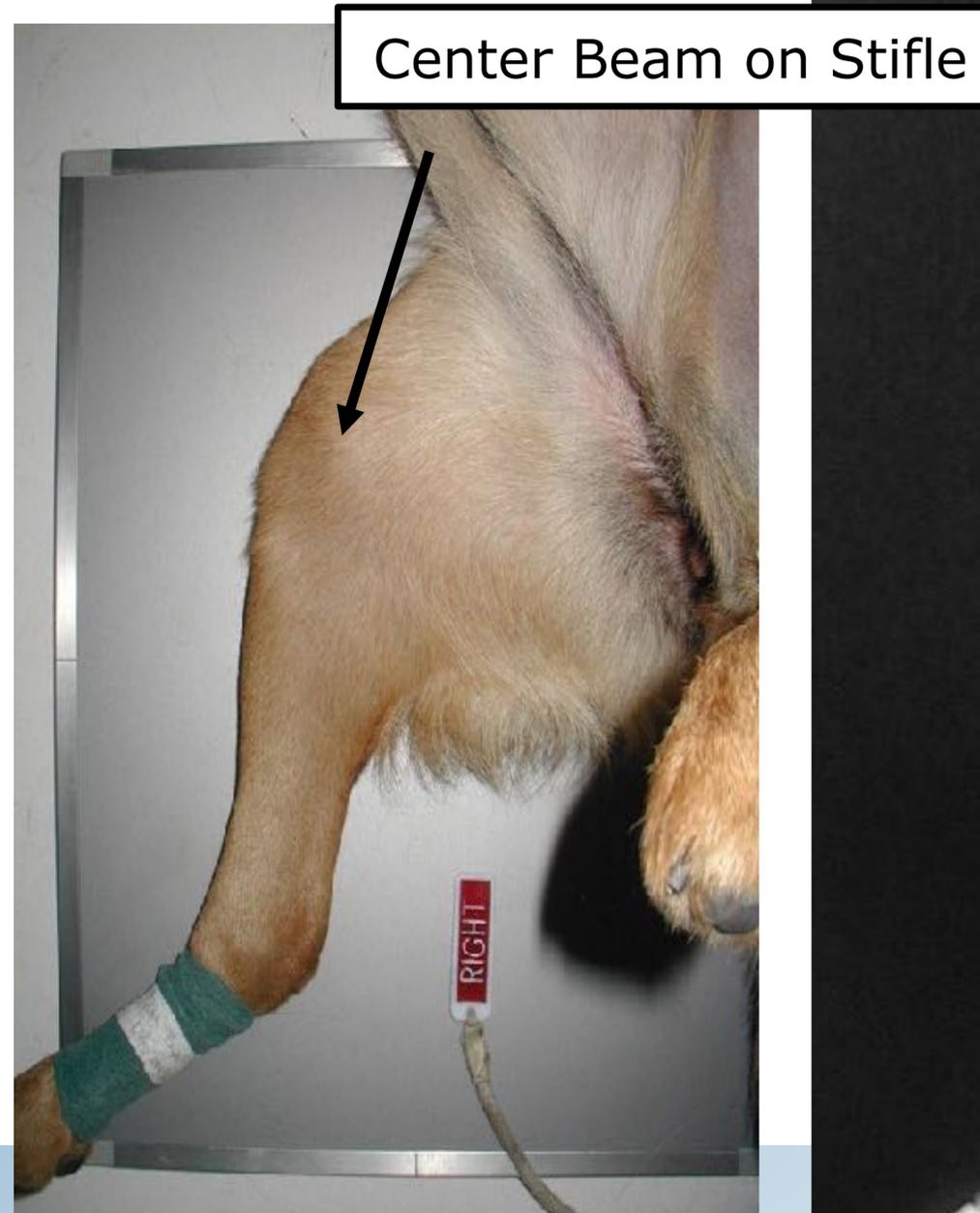


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Stifle Radiographs

Radiograph: Lateral View



Veterinary Medical Surgical
PARKER, RIDGELY (ID: 47077-61046)

OWNER: PARKER, RIDGELY

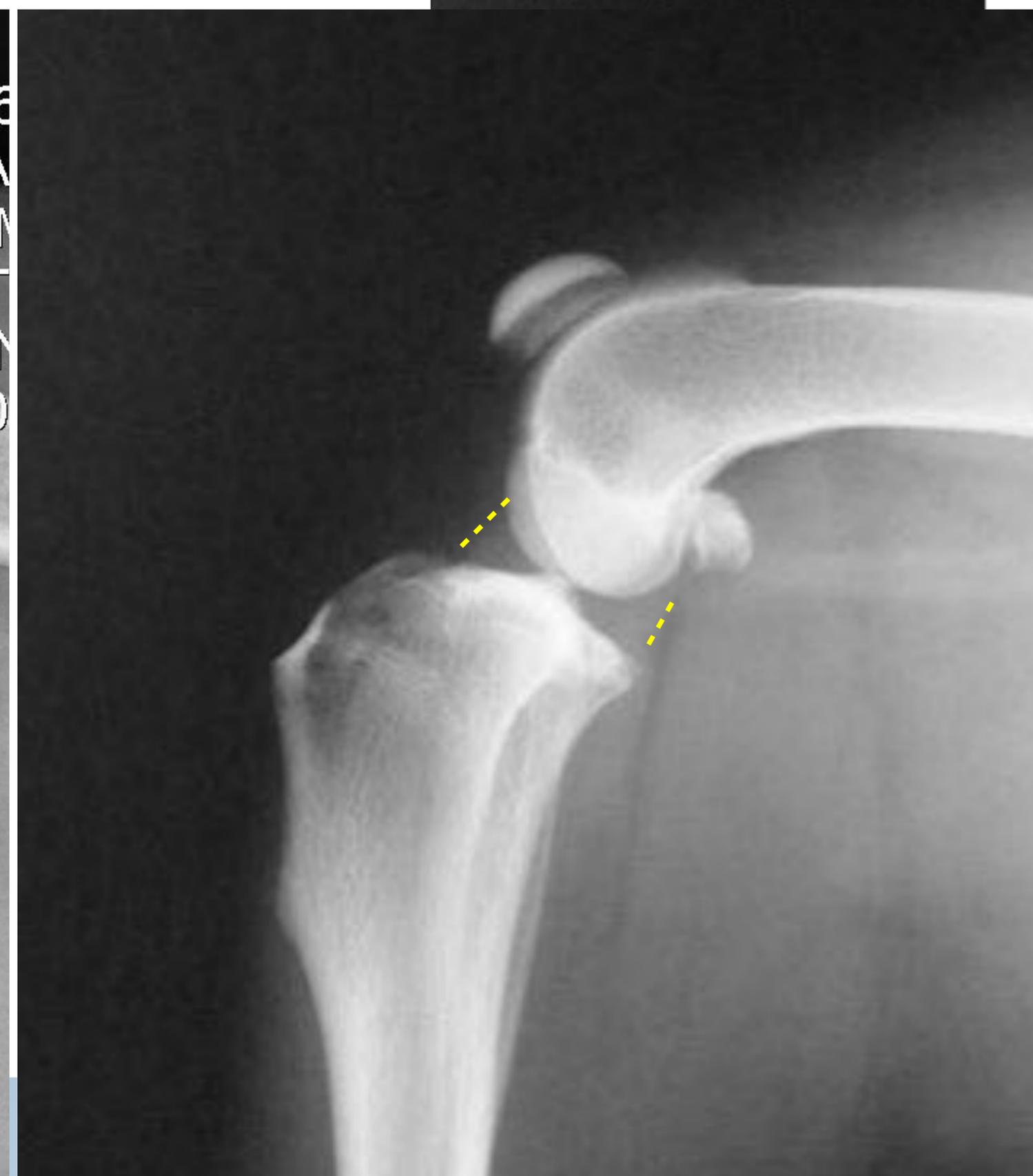
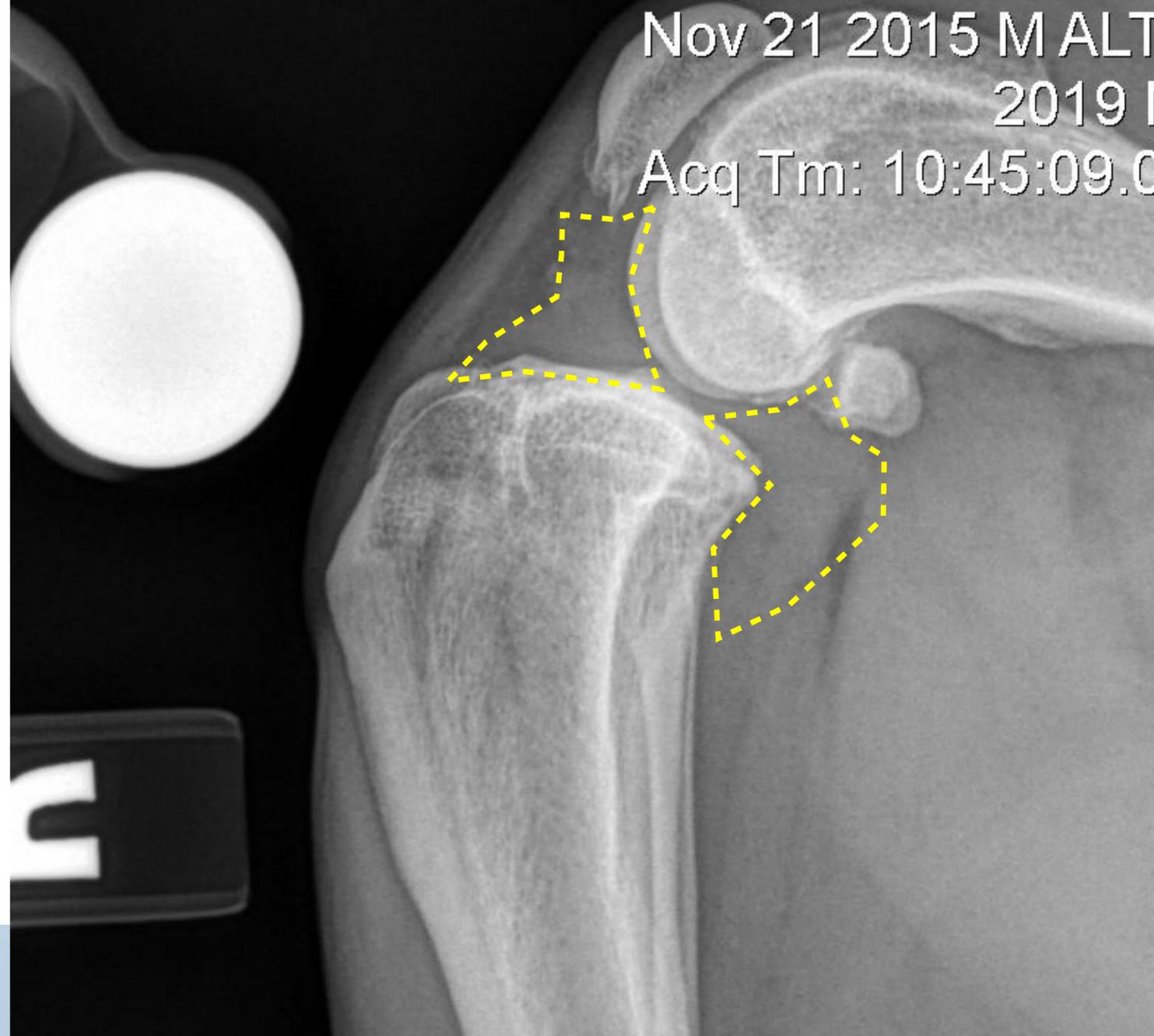
Sp/Brd: Canine - M

Nov 21 2015 M ALT

2019 M

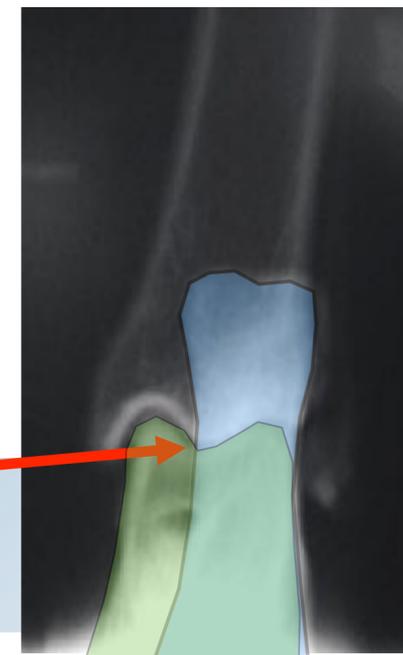
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Stifle Radiographs

Radiograph: CdCr View



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Medial cortex of calcaneus
should bisect (split) the talus



Long Bones Radiographs: Special

Angular/Rotational Limb Deformities

Multiple Views Required

Good CrCd of Joint Above

Good CrCd of Joint Below

Good Lateral of Joint Above

Good Lateral of Joint Below

Comparison to Contralateral Limb



Long Bones Radiographs: Special

Angular/Rotational Limb Deformities

Multiple Views Required

Good CrCd of Joint Above

Good CrCd of Joint Below

Good Lateral of Joint Above

Good Lateral of Joint Below

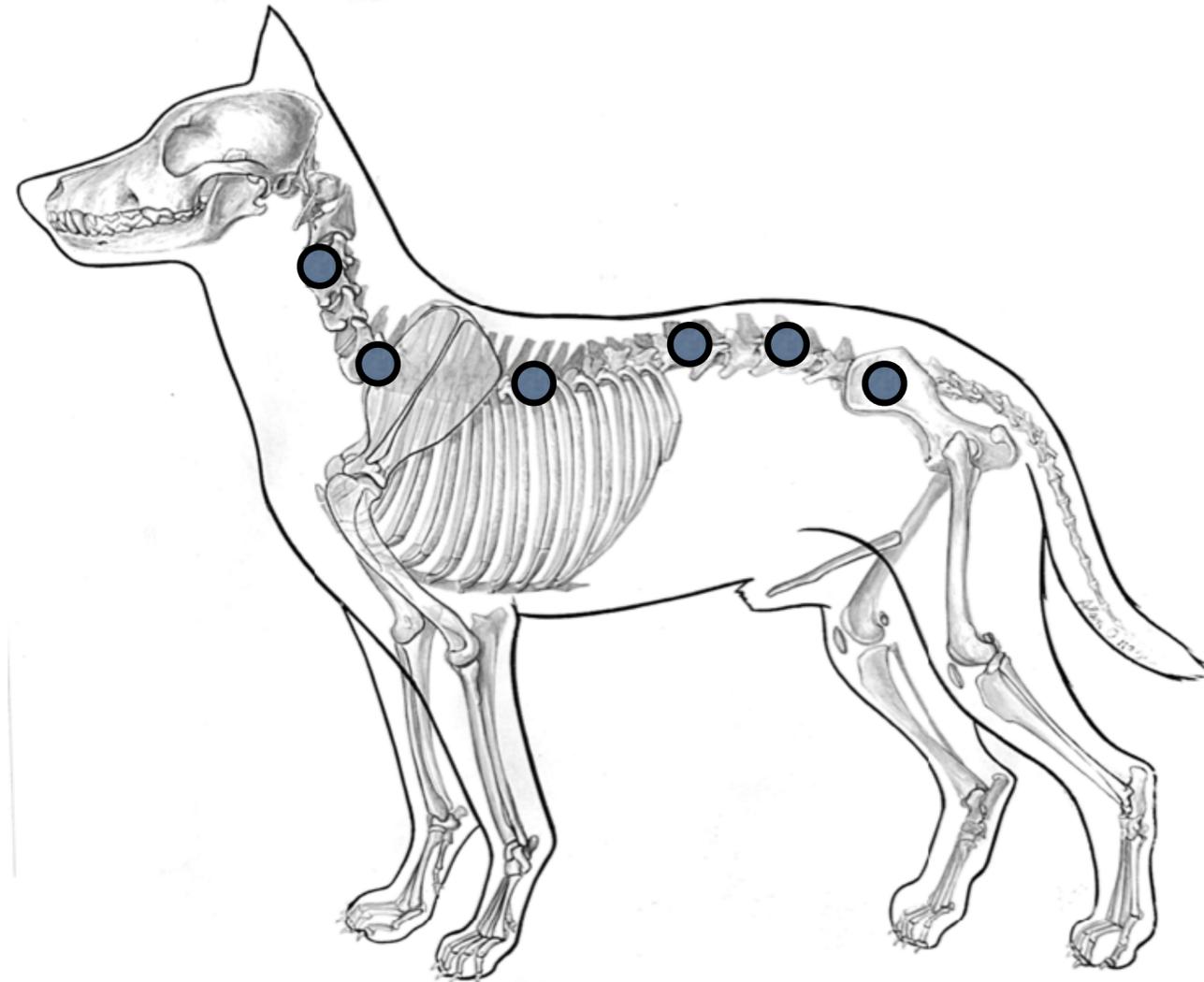
Comparison to Contralateral Limb



Spine Radiographs

Regions

Cranial Cervical, Caudal Cervical, Thorax, T-L, Lumbar, LS



Spine Radiographs

VD: 6 Views

Lateral: 6 views

Spine Parallel to Table Top

Foam Wedges, Cotton

