1	Radiographic Analysis Pelvis
2	 Where do we begin? Your first step is to put the line in place to represent the patient's base the femurhead line. Draw this line by joining two dots placed at the highest point on each femurhead.
3	
4	
5	With this in place you now have four goals to meet to complete the line analysis:
6	4 Goals:
7	1) PI and AS listing:These are determined by the heights of the innominates.
8	Steps: Align the ruler with the femur-head line and roll it up to the top of each iliac crest, and draw a separate line above each one.
9	
10	 Lines for lower ischium Invert the ruler, re-align it with the femur-head line and roll it down to the bottom of each ischium and draw separate lines on each. Draw a line across the lowest point on each ischium. The lines should be parallel to the femur head line Do not connect the dots!
11	
12 🔲	Measuring what you've done Align the side edge of the ruler with one of the lines you just drew and measure the height of each innominate, recording it in the ischium or femur head.
13 🔲	
14 🔲	
15 🔲	OK, so what does that mean? The 'PI' is high", i.e. the taller measurement is the PI side, while the shorter is the AS. To our example: 175 on the left, 170 on the right The Left is the "High" number, so it is the PI

	The Right is the "low" number, so it is the AS
16	So, does everybody have a PI listing this way? No, The side listed is the side of the L5 body rotation. If L5 is not rotated, check the segments above.
17 🔲	In Our example, the L5 is a body Right, so we'll list the right side
18	Subscripts These help quantify the distortion They help you determine which component to focus on The subscript for the PI or AS portion is the difference between the two measurements.
19	Goal #2 Ex or In component
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21 🔲	
22 🔲	 2) Ex and In listing: align the "zero line" (center line perpendicular to leading edge) on your ruler with the femur head line
23 🔲	
24 🔲	Center the ruler then roll the ruler until the edge is over the S1 tubercle (or S2 if S1 is not visible).
25 🔲	
26	 Draw a line through the tubercle, and without moving the ruler, draw another line across the level of the pubic symphysis.
27 🔲	
28	Mark the center of the pelvis Place a dot in the center of the symphysis.
29 🔲	
30	Measure the distortion Align your "zero line" with the line you just drew across the symphysis move the ruler until the zero scale intersects the dot.
31	

32	Read and record the measurement
	it is the subscript for the In or Ex portion of the listing.
	■ The dot will be on the In side of the line ("dot the I")
	and the line will be on the Ex side of the symphysis.
33	
34 🔲	3) Sacrum:
35	Landmarks Align the "zero line" on your ruler with the femur-head line and roll it to the outermost aspects of the sacrum; draw lines at these two locations.
36	
37 🔲	
38 🔲	
39	Measuring Align the "zero line" with the vertical centerline that was previously drawn roll it up until the zero scale intersects your two new lines. Read the measurements and record them near the most lateral aspects of each side of the sacrum.
40 🔲	
41	 Interpreting the lines Here, "the wide side wins", i.e. the wide side has moved posteriorly. The difference between the two measurements is the subscript for the sacral listing.
42 🔲	Sacral Inferiority Done by some folks to give more detail to the sacral listing
43	When will this be invalid?
	■ If you wish to analyze the inferiority of the sacrum, first you need to see if the sacrum is consistent within itself.
	Begin this procedure by first drawing a "PLOTS" (Plane Line of the Sacrum).
44	PLOTS Line To produce this line place dots where the superior articulating processes of S1 meet the ala of the sacrum. Join the two dots to form the PLOTS.
45 🔲	
46	 Sacral Foramen Next, place dots on the tops of each sacral foramen. Join the dots on adjacent foramina and compare them to the PLOTS. Do this by aligning the ruler with the PLOTS and rolling it down to compare with the foraminal lines you just drew.

Interpretation:
 If they are not parallel, then the sacrum is inconsistent within itself, and any inferiority should be ignored.
Now what? If they are all parallel, then align your ruler with the femur head line, roll it up until it intersects the higher of the two PLOTS dots and draw a line over the lower one. Measure this distance (lower PLOTS dot to line you just drew) and use the measurement for the subscript of the "I" portion of the sacral listing.
 3-b) Coccyx: Observe the coccyx to see if there is deviation. List by the direction the tip of the coccyx is pointed.
4) MD/AD calculation:
 Measured Deficiency The MD (Measured Deficiency) is the amount of femur head "shortness" measured on the film with the patient standing Here's how you do it: Align the ruler with either a grid-line or the lower edge of the film.
■Roll it up until you intersect the higher of the two femur heads.
■Draw a line over the shorter of the two.
 Measuring Next align your "zero line" with the femur head line and roll the ruler until the zero on that scale intersects the highest point on the femur head. Measure and record your "M.D." (measured deficiency). Calculate the appropriate A.D. (actual deficiency). You'll see this in it's own lecture

59 🔲