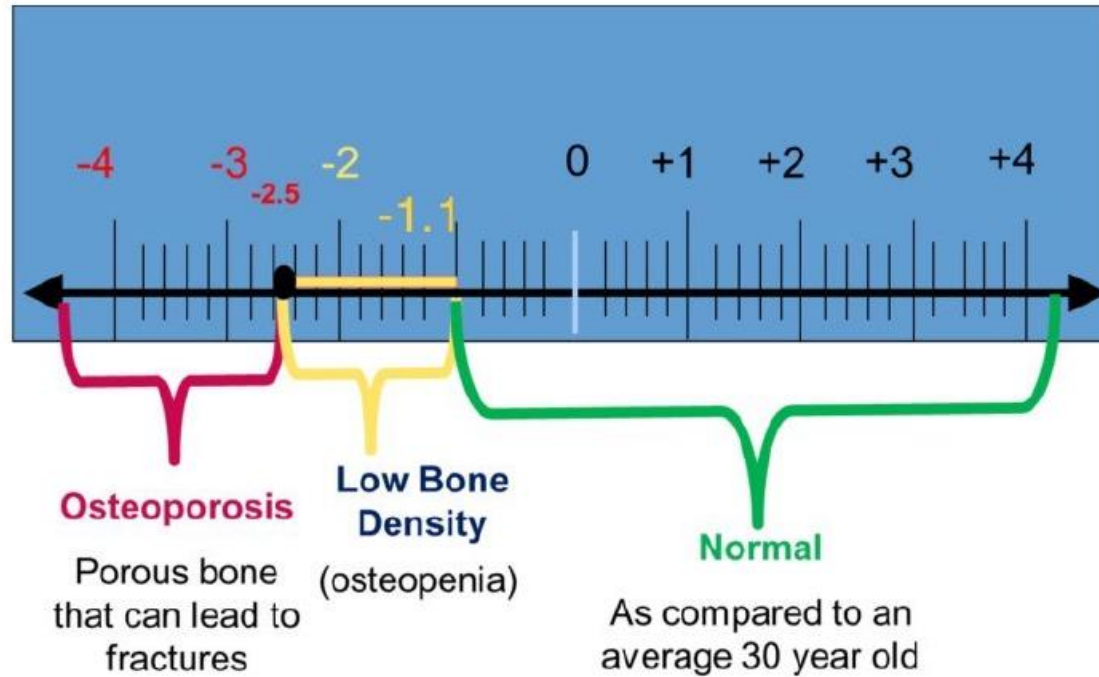




Beginner's Guide to Drafting Invision Sally Jobe's (ISJ) Dual Energy X-Ray Absorption (DXA) Examinations

September 2024


ISJ DXA Drafting



Follow instructions for Clario drafting: [DXA Drafting with Clario 12.14.23](#)

ISJ DXA Drafting

DRAFTING STEPS

(If you accidentally mess up, select UNDO () until your table comes back, otherwise, call tech to have them resend HL7 table)

1. COPY TABLE (MACRO DXA), Paste in results []
 - Clean up table if it is not aligned properly
2. Is the questionnaire scanned? (both pages)?
 - Ethnicity selected matches scan?
 - Does pt have hypercalcemia or hyperparathyroidism? If so, forearm should be included
3. Order scanned? (VFA?)
4. Technical Quality
 - Priors?
 - Significant increase or decrease in BMD (spine 0.036), (hip 0.028), (forearm 0.030)?
 - Pixels match? (current vs prior)
 - Priors reanalyzed? (macro 609 paperwork should be scanned)
 - Were any vertebral bodies eliminated? (macro combo-edit as needed)
 - Is the spine reliable? (If all vertebral bodies were included, consider macro sclerosis)
5. Go back to top of macro and fill in the blanks
6. Check FRAX- **Elevated** if (major $\geq 20\%$ minor $\geq 3\%$) Use **macro eliminate frax (Slide 14)** if pt checks **NO FRAX CRF**, or list item from **(Slide 14)**.
7. Contributed By:
8. Correct (top of PS360) *(only use draft if you need to save the exam for yourself to edit later)*
9. Go back to Clario worklist and open DEXA-Drafted tab and unlock the exam (the rads will pick them up once unassigned)
10. If you want to assign to someone, don't unlock, instead use the symbol with a circle around check mark, pop up screen will allow you to type in name.

ISJ DXA Drafting

TECHNICAL QUALITY:

The images were reviewed, applying ISCD performance standards for positioning, acquisition, and analysis.
(Remove this statement if technical quality is compromised)

MACRO COMBO

(Insert under technical quality statement anytime vertebral bodies are eliminated, edit (discogenic sclerosis when necessary))

For the lumbar spine measurements, only the [] levels were included. The [] excluded due to discogenic sclerosis which potentially elevates bone mineral density values. [] (this box is optional- see option 4)

Forearm not included (but should have been)

Pick 1: For this reason, future exams should include imaging of the patient's non-dominant forearm.

(IF VERTEBRAL BODIES WERE ELIMINATED AND A FOREARM WAS NOT IMAGED, PICK 1 SHOULD BE YOUR 1ST CHOICE) (unless pt has hx of forearm fx)

Other sites have a more severe diagnosis than spine

Pick 2: The other sites are a more accurate representation of the patient's true bone mineral density.

Spine Z-scores elevated (compared to hip & forearm), severe sclerosis, poor delineation of vertebral bodies

Option 3: use when spine is extremely unreliable and should not be included on a follow up exam

For this reason, future exams should include imaging of the patient's left hip and left forearm only.

(Pick 1 edited to say)

Option 4: Delete box if all sites have the same diagnosis or spine diagnosis matches the most severe diagnosis of the other imaged sites.

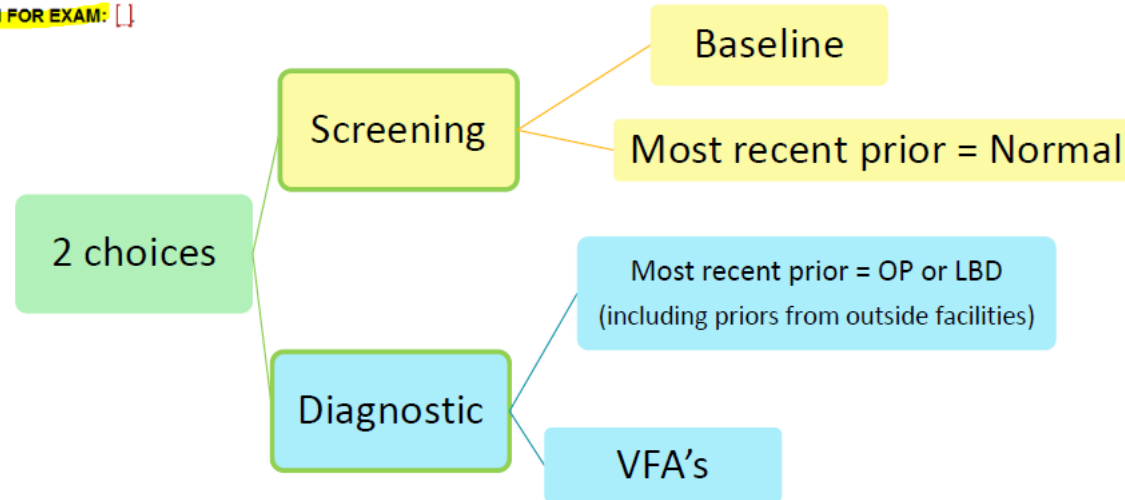
ISJ DXA Drafting

DXA BONE DENSITY

EXAM DATE AND TIME:

REASON FOR EXAM:

Reason for Exam



ISJ DXA Drafting

INDICATIONS: []

Examples of Indication Verbiage

Screening

Postmenopausal. Baseline exam for this facility.

Most recent prior normal:
Postmenopausal. Follow up exam.

Height loss greater than one inch during lifetime.
Baseline exam for this facility.

Fragility fracture of the right hip with little or no
trauma. Baseline exam for this facility.

Personal history of secondary osteoporosis due to
premature menopause before age 45. Baseline exam for
this facility.

Diagnostic

History of osteoporosis . Follow up exam.

History of low bone density. Follow up exam.

History of low bone density diagnosed on an
outside study. Baseline exam for this facility.

History of osteoporosis diagnosed on an
outside study. Baseline exam for this facility.

*Always indicate baseline or follow up exam!

*If only 2 clinical risk factors are marked, combine them into the 1st
sentence of indications and delete CRF section.

ISJ DXA Drafting

Clinical Risk Factors

- No FRAX- Unique Impression
- FRAX calculation risk (secondary osteoporosis)

Personal Information		
Gender: _____		
Race/Ethnicity: <input type="checkbox"/> White/Caucasian <input type="checkbox"/> Black/African American <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Asian/Pacific Islander		
Clinical Risk Factors - Biological Female	Yes	No
Are you postmenopausal (periods have stopped completely)?		
Are you perimenopausal (experiencing menopausal symptoms)?		
Are you premenopausal (still having regular periods)?		
Did you have premature menopause (before the age of 45)?		
Are you currently or have you in the past year been on Estrogen Therapy (patch or pill only)?		
Clinical Risk Factors - Biological Male	Yes	No
Do you have a history of prostate cancer?		
If yes, are you taking medication to treat prostate cancer? Check the medication name under "Medications"		




Clinical Risk Factor Verbiage:















- CRF- Personal history of secondary osteoporosis due to premature menopause before age 45.
- CRF- Long term and current use of drug name, an agent affecting estrogen levels (Z79.818).

Prostate Cancer Medications	Abiraterone	Enzalutamide	Relugolix
	Abiraterone	Erleada	Trelstar
	Apalutamide	Fensolvi	Triptodur
	Bicalutamide	Firmagon	Triptorelin
	Camcevi	Goserelin	Xtandi
	Casodex	Leuprolide	Yonsa
	Darolutamide	Lupron	Zoladex
	Degarelix	Nubeqq	Zytiga
	Eligard	Orgovyx	

ISJ DXA Drafting

Clinical Risk Factors (continued)

-  No FRAX- Unique Impression
-  FRAX calculation risk
-  FRAX calculation risk (secondary osteoporosis)

General Clinical Risk Factors	Yes	No	Clinical Risk Factor Verbiage- <i>CRF</i>
In the last 14 days (about 2 weeks), have you had imaging with IV contrast or barium or a nuclear medicine test?			
 Have you ever experienced a Hip or Spine fracture?			<i>CRF</i> - History of a _____ fracture.
If yes, please indicate where: <input type="radio"/> left hip <input type="radio"/> right hip <input type="radio"/> spine			
 Have you ever experienced a fragility fracture due to little or no trauma after the age of 40 (Excluding hands, feet or skull)?			<i>CRF</i> - Reported history of fragility fracture with little or no trauma.
 Are you currently or in the past two years been on a specific drug therapy for osteoporosis/low bone density?			
 Do you have a history of diagnosed rheumatoid arthritis (not osteoarthritis or any other types)?			<i>CRF</i> - History of rheumatoid arthritis.
 Do you have a history either current or in the past of long-term oral steroid therapy (Greater than 3 months in your lifetime)?			<i>CRF</i> - Long term systemic steroid therapy. (<i>FRAX</i>)
If yes, which type of oral steroid was it? <input checked="" type="radio"/> Prednisone greater than 5mg <input type="radio"/> inhaled			<i>CRF</i> - Long term inhaled steroid therapy.
 Do you have type 1 (insulin dependent) diabetes?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
 Do you have untreated long-standing hyperthyroidism (overactive thyroid)?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
Do you have a diagnosis of hyperparathyroidism or hypercalcemia? and if yes, a forearm must be performed.			<i>CRF</i> - Personal history of hyperparathyroidism.
Do you have a history of long-term use (5 years or more) of thyroid replacement therapy such as Levothyroxine?			<i>CRF</i> - Long term thyroid replacement therapy.
 Do you have adult osteogenesis imperfecta?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
 Did you have a previous surgery to remove bowel or stomach?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
Do you currently take a proton pump inhibitor (PPI) such as Omeprazole?			
If yes, have you taken the PPI for 5 or more years?			<i>CRF</i> - Long term use of Proton Pump Inhibitor (PPI) medication.
 Do you have hypogonadism?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
 Do you have anorexia nervosa or bulimia?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
 Do you have a chronic liver disorder?			<i>CRF</i> - Personal history of secondary osteoporosis due to _____.
Do you have a personal history of breast cancer?			<i>CRF</i> - Personal history of breast cancer with <u>type of treatment</u> .
If yes, what treatment you have had: <input type="radio"/> chemotherapy <input type="radio"/> radiation <input type="radio"/> aromatase inhibitor <input type="radio"/> other			
 Do you currently smoke cigarettes?			<i>CRF</i> - Current cigarette smoker.
 Do you drink more than 2 alcoholic drinks daily?			<i>CRF</i> - Moderate alcohol consumption.
Do you exercise more than 2x per week?			<i>CRF</i> - Reported suboptimal exercise history.
Have you regularly consumed 2 or more dairy (cheese, yogurt, etc.) servings per day most of your life?			<i>CRF</i> - Relatively low dietary calcium intake.
Have you experienced height loss greater than one inch over your lifetime?			<i>CRF</i> - Height loss greater than one inch during lifetime.

Clinical Risk Factor List Example

Indications: **History of low bone density.** Follow up exam.

Clinical risk factors:

REPEAT in the list!

1. Postmenopausal.
2. **History of low bone density.**
3. History of multiple fragility fractures with little or no trauma.
4. Personal history of osteogenesis imperfecta.
5. Height loss greater than one inch during lifetime.
6. Moderate alcohol consumption.
8. Reported suboptimal exercise history.

MORE CRITICAL RISKS LISTED FIRST!

ISJ DXA Drafting

FAMILY HISTORY:
Family history of osteoporosis: [Family History]

Parental hip fracture: [Parental Hip Fracture]

Family History	Yes	No
Is there a family history of osteoporosis?		
*Did or have either of your parents ever experienced a hip fracture in their lifetime?		

Family hx of osteoporosis:
[Yes.]
[No.]
[Unknown.]

Parental hip fracture:
[Mother.]
[Father.]
[Yes.]
[No.]

ISJ DXA Drafting

CURRENT MEDICATIONS: [Medications]

Medications and Supplements	Yes	No	Medications and Supplements	Yes	No
Leuprolide for prostate cancer			Calcium		
Relugolix for prostate cancer			Vitamin D/D3		
Enzalutamide for prostate cancer			Multivitamins		
Lupron for prostate cancer			Estrogen by patch or orally		
Eligard for prostate cancer			Aromatase		
Orgovyx for prostate cancer			Arimidex		
Goserelin for prostate cancer			Femara		
Triptorelin for prostate cancer			Fosamax (Alendronate)		
Degarelix for prostate cancer			Actonel (Risedronate)		
Abiraterone for prostate cancer			Boniva (Ibandronate)		
Bicalutamide for prostate cancer			Forteo (Teriparatide)		
Apalutamide for prostate cancer			Reclast (Zoledronic Acid)		
Zoladex for prostate cancer			Prolia (Denosumab)		
Trelstar for prostate cancer			Evenity (Romosozumab)		
Firmagon for prostate cancer			Evista (Raloxifene)		
Yonsa for prostate cancer			Miacalcin (Calcitonin)		
Zytiga for prostate cancer			Tymlos (Abaloparatide)		
Casodex for prostate cancer			Zometa		
Darolutamide for prostate cancer			Thyroid Replacement		
Please list any other medications that you take for bone loss, if any:					

- No current medications are listed.
- Calcium. Multivitamin. Vitamin D. Hormone replacement therapy. Fosamax.
- Calcium. Evista. Levothyroxine. Other medications as listed.

ISJ DXA Drafting

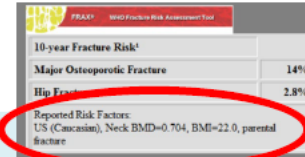
FRAX Criteria
Fracture -Low trauma & adult (do not count skull, hands and feet) <i>No Frax for Pts with prior hip or vertebral fx. (Low trauma pelvic fx <u>DO FRAX</u>)</i>
Parental Hip FX
Current Smoking
Glucocorticoids (oral 5+mg) for > 3 months *In lifetime*
RA- Confirmed diagnosis only
Secondary Osteoporosis: aka OP caused by certain medical conditions <ul style="list-style-type: none">• Premature menopause (<45 yrs)• Type 1 (insulin dependent) Diabetes• Osteogenesis imperfecta• Hyperthyroidism (untreated, long standing)• Hypogonadism• Chronic malnutrition• Malabsorption• Chronic liver disease <p>} Previous surgery to remove bowel or stomach</p> <p>frax.shef.ac.uk/FRAX/tool.aspx?country=9 (scroll to bottom of frax calculator to see risk factors)</p>
Alcohol - 3 or more drinks a day
Bioidentical Hormone replacement <u>DO FRAX</u> slide 63
Off (pill or patch) HRT for 1 year - <u>DO FRAX</u>
Off Bisphosphonates (Actonel, Boniva, Fosamax (pamidronate) etc.) off 2 years – <u>DO FRAX</u>

ISJ DXA Drafting

FRAX (10-year Probability of Fracture):
Major Osteoporotic Fracture: []
Hip Fracture: []

Calculating FRAX

- Elevated FRAX= Major OP Fx \geq 20% Hip Fx \geq 3%
- Follow FRAX criteria
- If the technologist does not include appropriate risk factors or ethnicity recalculate: <https://www.sheffield.ac.uk/FRAX/tool.aspx?country=9>



FRAX 10-year Fracture Risk Assessment Tool	
10-year Fracture Risk ¹	
Major Osteoporotic Fracture	14%
Hip Fracture	2.8%
Reported Risk Factors: US (Caucasian), Neck BMD=-0.704, BMI=22.0, parental fracture	

Country: US (Caucasian) Name/ID: About the risk factors

Questionnaire:

1. Age (between 40 and 90 years) or Date of Birth
Age: Y: M: D:

2. Sex ☐ Male ☐ Female

3. Weight (kg)

4. Height (cm)

5. Previous Fracture ☒ No ☐ Yes

6. Parent Fractured Hip ☒ No ☐ Yes

7. Current Smoking ☒ No ☐ Yes

8. Glucocorticoids ☒ No ☐ Yes

9. Rheumatoid arthritis ☒ No ☐ Yes

10. Secondary osteoporosis ☒ No ☐ Yes

11. Alcohol 3 or more units/day ☒ No ☐ Yes

12. Femoral neck BMD (g/cm²)
Select BMD

Weight Conversion
Pounds kg

Height Conversion
Inches cm

06859876
Individuals with fracture risk assessed since 1st June 2011

Low trauma only- DO NOT COUNT hands, feet or skull fx
(hip or spine fracture = NO FRAX (even if low trauma))

(oral 5+mg) for > 3 months "in lifetime"

ISJ DXA Drafting

Calculating FRAX

Check Reported Risk Factors box to verify all risk factors were included by tech in calculation. (especially Secondary OP)

FRAX® WHO Fracture Risk Assessment Tool	
10-year Fracture Risk ¹	
Major Osteoporotic Fracture	14%
Hip Fracture	2.8%
Reported Risk Factors: US (Caucasian), Neck BMD=0.704, BMI=22.0, parental fracture	
Secondary Osteoporosis	

Country: US (Caucasian) Name/ID: [About the risk factors](#)

Questionnaire:

1. Age (between 40 and 90 years) or Date of Birth

Age: Date of Birth:
Y: M: D:

10. Secondary osteoporosis ☒ No ☐ Yes

11. Alcohol 3 or more units/day ☒ No ☐ Yes

12. Femoral neck BMD (g/cm²)

Secondary Osteoporosis:

- Premature menopause (<45 yrs)
 - Type 1 (insulin dependent) Diabetes
 - Osteogenesis imperfecta
 - Hyperthyroidism (untreated, long standing)
 - Hypogonadism
 - Chronic malnutrition
 - Malabsorption
 - Chronic liver disease
- } Bowel or stomach removed

ISJ DXA Drafting

Macro's (Eliminate FRAX or Not Reported FRAX)

FRAX not reported: []

PICK LIST:

1. (All T-scores at or above -1.0)
2. (One or more T-scores at or below -2.5)
3. (Treated for osteoporosis)
4. Treated for osteoporosis (HRT)
5. LBD forearm otherwise normal — (T-scores for spine total, hip total and femoral neck at or above -1.0)(Forearm T-scores are diagnostic of low bone density)
6. (Premenopausal female)
7. (Prior hip fracture)
8. (Prior vertebral fracture)
9. (Male under the age of 50)

- All exams should have FRAX or Eliminate FRAX
- ISJ HL7 tables include FRAX / Eliminate FRAX
- Please correct cases that have incorrectly (included/ excluded/ miscalculated) FRAX.

ISJ DXA Drafting

When to Delete Sections of the Macro:

Located under pasted table:

Bone density test results of the [] [] are diagnostic of low bone density. Low bone density in one or more skeletal sites is indicative of generalized low bone density.

(Delete LBD statement if normal or osteoporotic)

At this facility, the Least Significant Change in BMD with 95% confidence utilized is 0.036 g/cm² at the L1-L4 Spine, 0.028 g/cm² at the Total Hip, and 0.030 g/cm² at the 1/3 Radius.

(Delete LSC statement if no comparison or comparison is from different ISJ/outside site)

Impression:

This patient has []. The 10-year fracture risk estimate is []. [] Patient preferences, clinical judgment and these bone density results should help guide management decisions. A follow-up bone density exam is recommended in 2 years or as clinically warranted to monitor bone density and the effectiveness of any therapeutic changes you may institute.

(Delete fracture risk statement from impression if the patient is on treatment)

(Delete rate of change box from impression field if: baseline exam, mixed trend, or prior exam was performed at different ISJ/outside site)

ISJ DXA Drafting

Bone density test results of the [] are diagnostic of low bone density. Low bone density in one or more skeletal sites is indicative of generalized low bone density.

Delete this section if all sites are NORMAL or OSTEOPOROTIC

USE BOTH MACRO BOXES

- Bone density test results of the [lumbar spine, left femoral neck, left total hip,][and right forearm] are diagnostic of low bone density. Low bone density in one or more skeletal sites is indicative of generalized low bone density.
- Bone density test results of the [left][femoral neck] are diagnostic of low bone density. Low bone density in one or more skeletal sites is indicative of generalized low bone density.
- Bone density test results of the [left femoral neck][and left forearm] are diagnostic of low bone density. Low bone density in one or more skeletal sites is indicative of generalized low bone density.
- Bone density test results of the [lumbar][spine] are diagnostic of low bone density. Low bone density in one or more skeletal sites is indicative of generalized low bone density.

ISJ DXA Drafting

Macro LSC

(Least Significant Change)

At this facility, the Least Significant Change in BMD with 95% confidence utilized is 0.036g/cm² at the L1-L4 Spine, 0.028 g/cm² at the Total Hip, and 0.030g/cm² at the 1/3 radius

LSC statements are included with MACRO DEXA (under results table)

(Delete LSC statement for baseline exams, ISJ vs different ISJ, or prior from outside facility)

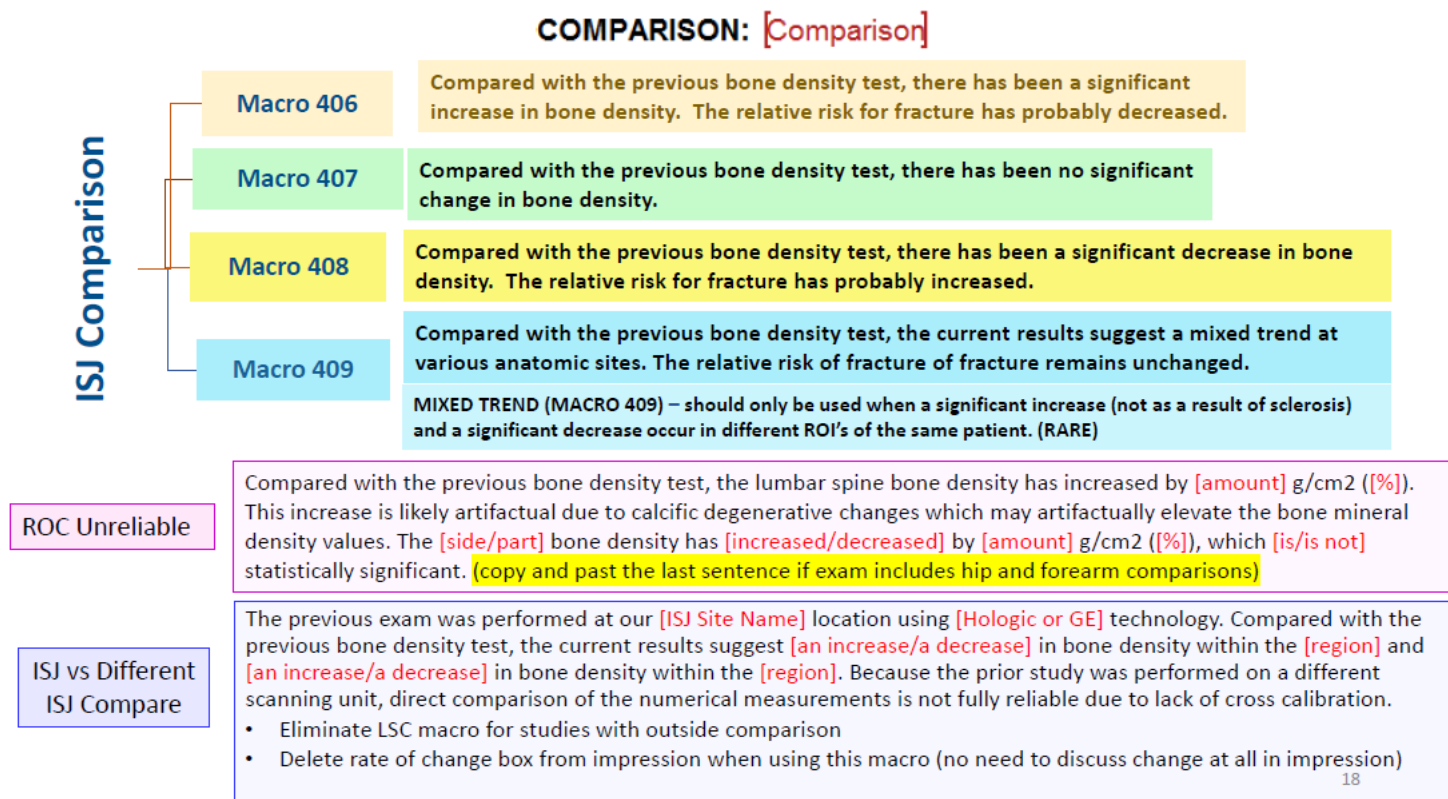
ROI	LSC (g/cm ²)
Spine (L1-L4)	0.036
Total hip	0.028
1/3 Radius	0.030

Only report bmd changes that are **significant** (> the LSC value in the positive or negative direction) according to the LSC for the respective ROI: Region Of Interest

Examples:

- The lumbar spine BMD has decreased by -0.056 g/cm² (significant decrease)
- The left total hip BMD has increased by 0.028 g/cm² (significant increase)
- The right forearm BMD has decreased by - 0.045 g/cm² (significant decrease)

ISJ DXA Drafting



18

ISJ DXA Drafting

COMPARISON: [Comparison]

Examples of Edited Comparison Macros

In the comparison section, mention all imaged sites (Spine, Total Hip, and Forearm)

Macro 408

COMPARISON: [9.23.2016. Compared with the previous bone density test, there has been a significant decrease in bone density **within the left total hip and no significant change within the lumbar spine.** ~~The relative risk for fracture has probably increased.~~

Edit macros as necessary: Remove the risk statement if BMD has not decreased within all sites

Macro 407

Compared with the previous bone density test, there has been no significant change in bone density within the lumbar spine or right total hip. **The left forearm was not previously imaged.**

Macro 409

Compared with the previous bone density test, the current results suggest a mixed trend at various anatomic sites. **Bone density within the left total hip significantly increased and bone density within the lumbar spine decreased significantly.** The relative risk of fracture remains unchanged.

ISJ DXA Drafting

Parts of Impression:

1. DIAGNOSIS (always include)
2. FRACTURE RISK
3. CHANGE STATEMENT

Impression (Generic)

CHANGE STATEMENT- Include significant changes only. If no comparison delete. (next slide for rate of change examples)

IMPRESSION:

This patient has []. The 10-year fracture risk estimate is []. [] Patient preferences, clinical judgment and these bone density results should help guide management decisions. A follow-up bone density exam is recommended in 2 years or as clinically warranted to monitor bone density and the effectiveness of any therapeutic changes you may institute.

Pick List:

1. Normal
2. Osteopenia
3. Osteoporosis
4. Established Osteoporosis

FRAX NORMAL

ELEVATED FRAX

Pick List:

1. Average
2. Elevated

Delete fracture risk statement from impressions for pts on treatment

ISJ DXA Drafting

IMPRESSION:

Rate of Change Impression Field

This patient has []. The 10-year fracture risk estimate is []. [] Patient preferences, clinical judgment and these bone density results should help guide management decisions. A follow-up bone density exam is recommended in 2 years or as clinically warranted to monitor bone density and the effectiveness of any therapeutic changes you may institute.

Examples: (Only Mention Significant Changes in the IMPRESSION)

- ❖ There has been no significant change in bone density since 2015.
- ❖ There has been a statistically significant increase in bone density since 2017.
- ❖ There has been a statistically significant decrease in bone density since 2016.

BMD change was uniform across all sites
(Don't include lumbar spine, hip, forearm)

If all sites have not significantly changed uniformly: (Specify the site or sites that changed significantly only)

- ❖ There has been a significant decrease in bone density within the left total hip since 2016.
- ❖ There has been a significant increase in bone density within the lumbar spine and right forearm since 2019.
- ❖ *(other sites that have not changed significantly do not need to be listed in the impression)*

Delete this box if:

- ❖ Baseline exam
- ❖ Mixed trend
- ❖ Prior exam was performed at outside facility or different ISJ location

Unique Impression Macros (include rate of change statement prior to these macros)

Macro	When to Use
Osteopenia Elevated Risk	Frax indicates elevated risk ($\geq 3\%$ $\geq 20\%$)
Osteoporosis Elevated Risk	<ul style="list-style-type: none"> 1st time being diagnosed with osteoporosis Previously diagnosed with osteoporosis, never treated and bmd decreasing (in this case you will edit the macro to say: <i>If not already performed</i>, a laboratory evaluation ...)
Low Trauma Fx	Use when the pt has a fragility fx (humerus, forearm, femur, tib-fib, spine, ribs, pelvis) but diagnosis is (LBD or Normal)
Impression Prior Hip or Vertebral Fx	Pt has Normal or LBD T-Scores and reported spine or hip fx resulting from trauma
Established Osteoporosis	T-scores @ or below -2.5 and 1 or more fx reported (<i>traumatic and/or fragility fractures</i>)
Supra Normal	All Z scores are @ or above 2.5
Z-Score Impression	Males younger than 50, premeno females younger than 45 (@ 45 all females get T & Z-scores regardless of menopausal status)
Macro 605	BMD improved significantly (in all sights) while on treatment
Stabilization	BMD increased significantly in some sites but not all, or no significant change (all sights)
Macro 606	BMD significantly decreased (in 1 or more sights) while on treatment

Treatment Macros

22

GOLDEN DXAS

GE NOTES:

- Comparisons- ok to compare GE to Hologic (hip & spine if levels match). Forearm comparisons are not possible. If vertebral bodies are eliminated, spine comparisons are not possible. Due to dissimilar technology the statistical significance of comparison results are uncertain. Use macro ISJ vs different ISJ
- Review GE slides on DXA Drafting PPT- Slides 11-15

GE HL7 Tables:

Change **33%** to 1/3

The patient is a Female and 50.9 years of age.
Weight: 167.4 lbs. Height: 63.3 in. BMI: 29.4
Bone Density: GE Lunar Prodigy Fan Beam (S/N 76692GA).

Site	Region	BMD	T-score	Z-score	Classification
AP Spine	L1-L4	1.317 g/cm2	1.1	1.6	Normal
Left Femur	Neck	1.036 g/cm2	0.0	0.8	Normal
Left Femur	Total	1.080 g/cm2	0.6	1.1	Normal

Left Forearm Radius ~~33%~~ 0.879 g/cm2 0.0 0.1 Normal
Left Forearm Radius **1/3** 0.879 g/cm2 0.0 0.1 Normal

10 Year Fracture Risk not calculated: normal

If the table has extraneous info in comparison section and there is not a comparison study, delete the extra lines:

RESULTS:
The patient is a Female and 70.2 years of age.
Weight: 144.0 lbs. Height: 64.0 in. BMI: 24.7
Bone Density: GE Lunar Prodigy Fan Beam (S/N 76692GA).

Site	Region	BMD	T-score	Z-score	Classification
AP Spine	L1-L4 (L2,L3)	1.090 g/cm2	-0.6	1.0	Normal
Right Femur	Neck	0.896 g/cm2	-1.0	0.7	Normal
Right Femur	Total	0.847 g/cm2	-1.3	0.2	Low Bone Mass
Left Forearm Radius	1/3	0.654 g/cm2	-2.5	-0.7	Osteoporosis

10 Year Fracture Risk; Not Calculated - Prior Hip Fracture

Previous Exams: **NOTICE THERE IS NOT A PREVIOUS EXAM!**

AP Spine L1-L4 (L2,L3)
Exam Age BMD T BMD Change % Change BMD Change % Chg
Date score vs Baseline Baseline vs. Previous Prev.
06/21/2023 70.2 1.090 g/cm2 -0.6 baseline baseline
Right Femur Total
Exam Age BMD T BMD Change % Change BMD Change % Chg
Date score vs Baseline Baseline vs. Previous Prev.
06/21/2023 70.2 0.847 g/cm2 -1.3 baseline baseline
Left Forearm Radius 1/3
Exam Age BMD T BMD Change % Change BMD Change % Chg
Date score vs Baseline Baseline vs. Previous Prev.
06/21/2023 70.2 0.654 g/cm2 -2.5 baseline baseline

ISJ DXA Drafting

ISJ Macro Summary

Macro List by Category	Notes (DD= DXA Drafting ppt)
Technical Quality Macros	
609	Previous images reanalyzed
No Spine on f/u	Spine found to be unreliable on prior exam and not imaged on current exam
Sclerosis	Spine unreliable (severe sclerosis or degenerative changes), T & Z elevated compared to hip and forearm, Forearm not imaged but should have been
Spine Unreliable but Imaged	Delete all spine info in HL7 table if using this macro
Combo	Use if all vertebral bodies are not included (rules for 3rd fill in field- DD slide 52)
Hypercalcemia	Forearm should be imaged
Hyperparathyroidism	Forearm should be imaged
New System	Ex: 2021 pt has OP and 2023 BMD is normal (but all sites decreased) results do not make sense! (DD slides 73 and 53)
	REVIEW DD Slide 55 (MISC. Approved Verbiage)
FRAX Macros	
FRAX	Major \geq 20 % and Hip \geq 3 %
Eliminate FRAX	HRT, OP meds, (review DD slide 64)
Comparison Macros	
406	Significant Increase
407	No significant change
408	Significant Decrease
409	Mixed (must be significant increase and significant decrease)
ROC Unreliable	Spine increase is abnormal compared to other sites, <i>copy and paste the last sentence if forearm comparison included</i>
ISJ Vs Different ISJ Compare	Ex: Castle Rock vs Southwest (Significance should not be discussed due to lack of calibration between sites)
Impression Macros	Don't forget rate of change statement when using unique impression macros
Osteopenia Elevated Risk	Frax indicates elevated risk ($\geq 3\%$ $\geq 20\%$)
Low Trauma FX	Use when the pt has a fragility fx (humerus, forearm, femur, tib-fib, spine, ribs, pelvis) but diagnosis is (LBD or Normal)
Impression Prior Hip or Vertebral FX	Pt has normal or LBD and reported spine or hip fx (resulting from trauma)
Established Osteoporosis	T scores @ or below -2.5 and 1 or more fx reported (regardless of trauma/no trauma)
Osteoporosis Elevated Risk	(1st OP diagnosis) or (previously diagnosed with OP but not treated and bmd decreasing)
Supra Normal	All Z-scores are @ or above 2.5
Z-Score Impression	Males younger than 50, premeno females younger than 45 (@ 45 all females get T & Z-scores regardless of menopausal state)
Macro 605	Treatment macros should be used in the impression for all pts on OP meds and Synthetic HRT
Macro Stabilization	Do not include fx risk statement in impression for pts on treatment
Macro 606	Macro 605- Sig. increase in BMD , Macro Stabilization- No sig. change in BMD, Macro 606- Sig. decrease in BMD



Additional Questions or Comments?

Contact:

R. Brian Avery, R.T. (R)
Clinical Science Specialists for DXA
Brian.Avery@riaco.com