

Patient Care and Scan Prep.

LECTURE 5

Who should have a BMD test?

All women 65 years and older & men 70 years and older: Talk to your doctor about a BMD test.

Postmenopausal women and men aged 50 – 69 with risk factors for fracture including (but not limited to):

- Fragility fracture after age 40
- Parental hip fracture
- Excessive alcohol intake
- Current smoking
- Low body weight, i.e., less than 127 lbs
- Weight loss since age 25 greater than 10%
- High risk medication use: prolonged glucocorticoid use, aromatase inhibitors for breast cancer, androgen deprivation therapy for prostate cancer
- Rheumatoid arthritis
- Diabetes
- Other disorders that may contribute to bone loss

Younger men or women (under 50) with a disease or condition associated with low bone mass or bone loss:

- Fragility fractures
- High-risk medication use (steroid use, aromatase inhibitors, androgen deprivation therapy)
- Rheumatoid arthritis
- Other chronic inflammatory conditions
- Cushing's disease
- Malabsorption syndrome
- Uncontrolled hyperthyroidism; Primary hyperparathyroidism
- Hypogonadism; Early menopause (< 45)
- Other disorders associated with rapid bone loss/fractures



Getting ready to scan

PATIENT PREP AND ASSESSMENT



Prep for DXA?

Is there a preparation for the DXA exam?

Yes!!!!

Documentation

Scan log (yes, you need one)

Patient data

Scan date and electronic file name

Sites measured

Variations in scans

Reasons for repeats/reanalysis

Name of technologist and MD

Securing Patient History

Create questionnaire for patient

Work with MDs and technologists for easy format

Options for completion:

- By patient (mail if possible)
- By technologist at appointment

Can be secured from manufacturers

Can be secured from websites

- ISCD
- NOF

Can be developed by your staff and MDs

Make it user friendly

Questionnaires?

Building a Questionnaire

HOW IT'S DONE

Building a questionnaire

Are you using one in your facility?

What is important to ask?

Which of these are important?

African American female weighing 110#, 70 inches tall

History of intermittent steroid use

Rheumatoid arthritis

Chemotherapy at age 45 lead to ovarian failure

Lack of hormone replacement therapy

Father had osteoporosis

Which of these are important?

Caucasian Male patient aged 65

Weight 170 pounds, 72 inches tall

History of prostate cancer with radiation therapy to lesion

Medications include prednisone 25 mg daily for last 4 month,
Dilantin, Lasix

Purpose of Questionnaire

Allows tech to build rapport with patient

Provides vital information to tech to assist with more efficient scanning

- How?

Necessary to assist MD with analysis of data and provides a more accurate report generation process

Format

Make it technologist and MD friendly

Personnel should be able to readily move through information

- Allows tech to enter data quickly prior to BMD measurement
- Allows MD to find information for report process

Components of Questionnaire

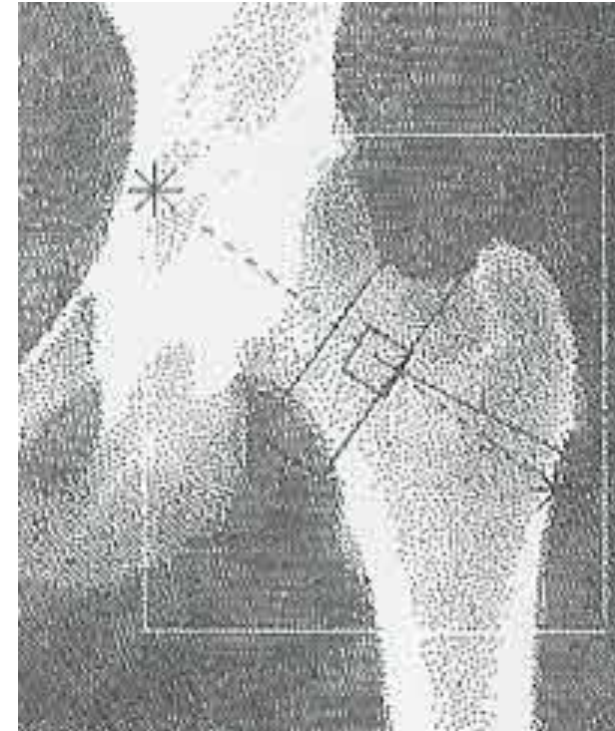
Patient identification information

- Tech friendly
- Height and weight
- Ethnicity
- Age or date of birth
- Male vs. female

Components of Questionnaire

Previous diagnosis of decreased BMD

- Previous BMD measurements other than your facility
- Types of measurements
- Bone loss areas
 - Spine
 - Hip
 - Forearm



Components of Questionnaire

Family hx of decreased BMD

Fractures as an adult

- Spine
- Hip
- Distal forearm

Weight bearing exercise



Components of Questionnaire

Alcohol/cigarette
usage

Menstrual history

Hysterectomy?

Oophorectomy?



Components of Questionnaire

Treatment history

- Calcium/Vitamin D
- Antiresorptive therapy
- Hormone replacement therapy
- Be sure to provide length of therapy
- Make notes of compliance with therapy
- Treatment vs. prevention dosages



Components of Questionnaire

Fall history

- Documentation of complaints of dizziness or meds which increase dizziness

Clinical observations

- Evidence of kyphosis
- MD might not see patient



Components of Questionnaire

Medical Conditions or Lifestyle factors which affect BMD

Medications which decrease BMD

Use the things we discussed prior as your guide



Charting

Your facility may not utilize a patient chart

If so, include the following:

- Scan printouts
- Reports
- Documentation of serial measurements
- Questionnaires
- Technical records to be used for serial scanning



Charting Rules

All entries into chart must be legible, dated and signed.

NO WHITE OUT IN A CHART.

Any changes or errors must be crossed out and initialed.

Patient Education

Can be a sticky subject

Know your boundaries as per the protocols of your facility

How much can you say?

What topics?

- Generic information
- Handouts prepared in-house
- Handouts from commercial sources

MD Responsibilities

Delegates authority to technologists but accepts final responsibility for:

Monitoring imaging

Ensure proper communications with staff

Ensure proper communications with referring MDs

MD Responsibilities

Ensure quality of staff

Ensure scan quality

Ensure proper record-keeping



Confidentiality

Train staff properly

Follow confidentiality rules-HIPAA

Limit staff access to information

- Be cautious of who can access your patient data base

Do not discuss patients outside of facility

Staff Selection

When recruiting your technical staff be aware of the rules of the state as to credentialing

Qualifications:

- Computer literacy
- Knowledge of anatomy
- Attention to detail
- Respect for radiation safety
- Communication skills

Training of Ancillary Staff

Scheduling Protocol for facility

Patient check list

- Attire
- Preparation for exam
- Recent studies which may interfere with DXA
- Prior radiographs
- Insurance/questionnaire

HOW AGING AFFECTS BELT HEIGHT...

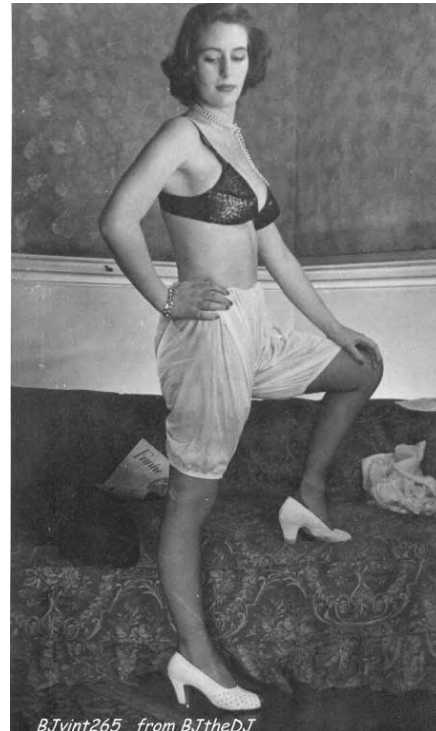


YOUTH ADULT MIDDLE-
AGE OLD
AGE

Reynolds

Cartoon Break

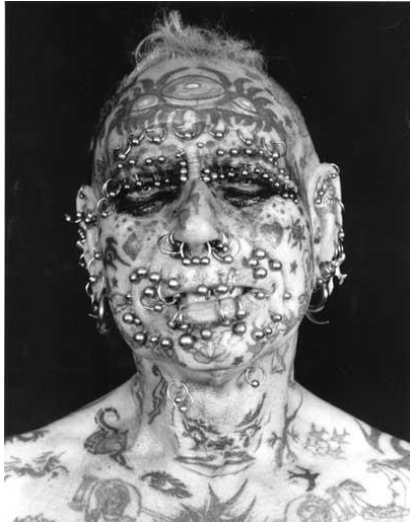
Appropriate Dress



Remove clothing related artifacts

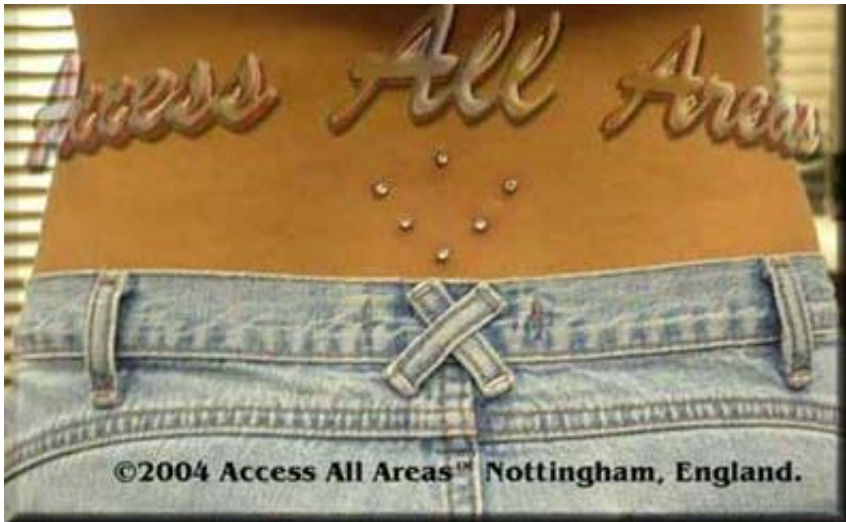
- Buttons,
- Snaps
- Plastic zippers
- Scuba suits

If you don't remove it there will be a surprise later on your image



Appropriate Dress

Remove metallic foreign objects from the scan regions



Patients can be sneaky or not so sneaky with these



Appropriate Dress

REMOVE JEWELRY FROM
WRIST AND HAND OF
FOREARM WHICH WILL BE
EVALUATED

Patient History

Previous surgeries to regions to be evaluated

Laminectomy

Vertebroplasty

Fusions

Hip replacement

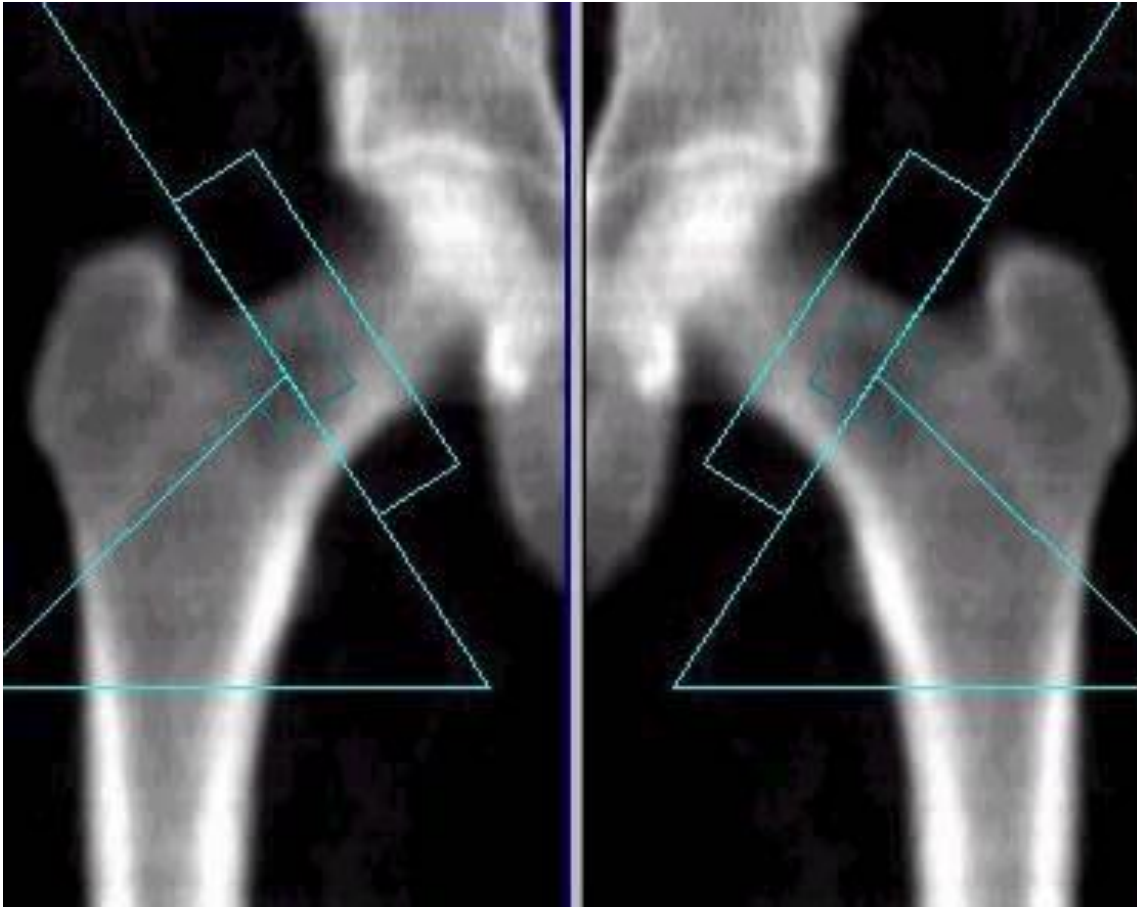


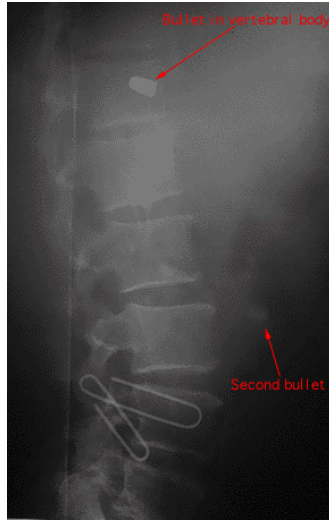
Shoes or No Shoes?

Shoes will affect the rotation of the proximal femur

Will not allow for consistency in serial measurements

Which hip do you measure?





Patient History

CALCIUM, VITAMINS, MEDICATIONS, FBS
WHICH COULD BE VISIBLE ON THE IMAGE



Patient History

Potential radioactivity from radiopharmaceuticals

Allow a minimum of 7 days for clearance

Would radioactivity increase or decrease your patient's BMD measurement?

Contrast Media

Barium: 14 days

CT IV fluid: 72 hours

Nuclear med contrast: 72 hours

MRI contrast gadolinium?

After the history

Adjust scan protocol as necessary

- You may need to consult the MD
- You may need to eliminate a region and substitute another
- You may need to eliminate vertebrae
- You may need to evaluate the hip opposite the fracture or pain
- Try to get a minimum of two sites if at all possible

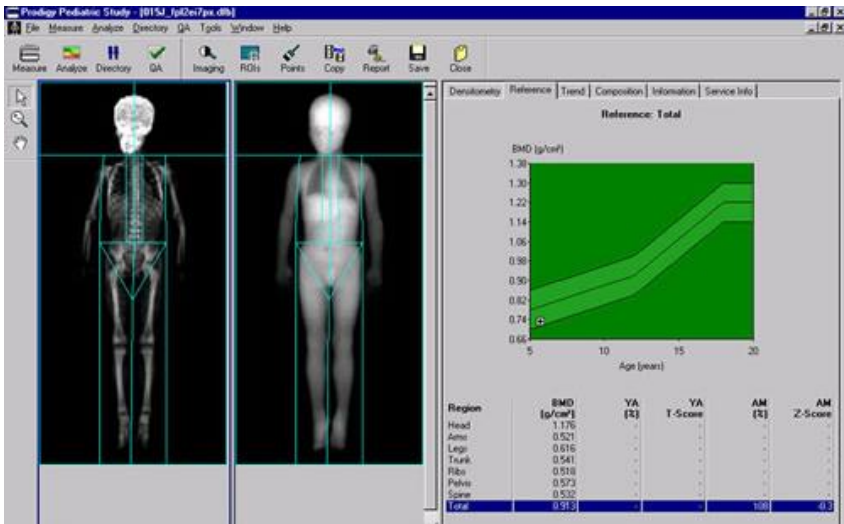


Pediatrics

How many of you are scanning pediatric patients?

How many of you have a pediatric data base?

What are you doing to compensate?



Body Habitus



Patient size can be an issue

BMD measurements need a certain amount of soft tissue to analyze

Excessive soft tissue can be a problem

Getting Ready to Scan

Take your patient's history information

Dress your patient appropriately

Enter data in system for scan



Explain Exam

Advise them that the scan arm will move above them but will not strike them

Patient must remain still while scans are performed

They do not have to hold their breath-advise them of such

They may talk if they do not move during the scan

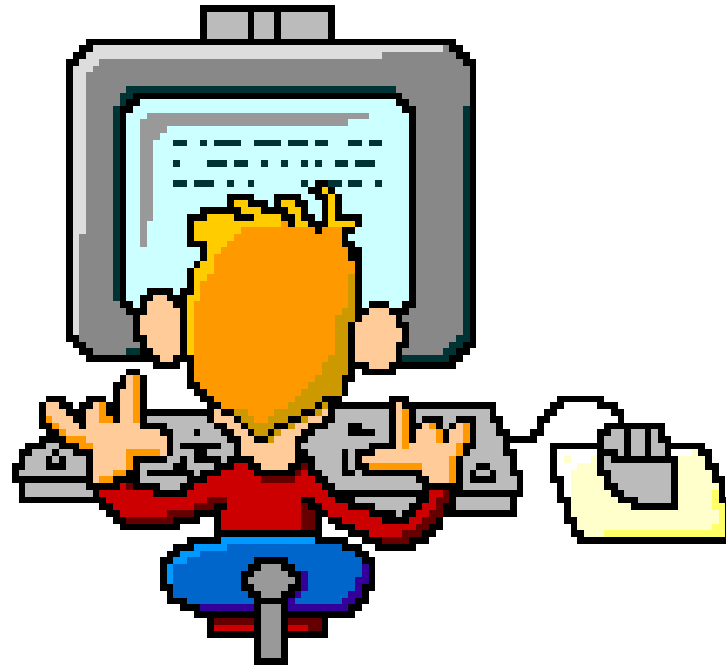


Patient Data

Entry will vary slightly by manufacturer

Includes:

- Name
- DOB
- Height/Weight
- Gender
- Ethnicity
- Patient ID number



Patient Data

There may be an additional page of data related to:

Menopausal status

Treatment medications

General comments

- History of osteoporosis
- Scan number ????

Who is a “Qualified Individual” ?

An estrogen deficient women at clinical risk of osteoporosis as determined by a physician or qualified nonphysician practitioner based on her medical history and other findings

Person with vertebral abnormalities as demonstrated by x-ray to be indicative of osteoporosis, osteopenia, or vertebral fracture

Person receiving or expecting to receive long-term glucocorticoid (steroid) therapy

- equivalent to 7.5mg or greater of prednisone per day for > 3 months

Who is a “Qualified Individual” ?

Person with primary hyperparathyroidism

Person being monitored to assess the response to or efficacy of an FDA-approved osteoporosis therapy.

- Follow-up will be limited to one test every 2 years.
- Peripheral and central site measurement are acceptable and reimbursable

How often?

Coverage of follow-up bone mass measurements is generally limited to one measurement every 2 years

When medically necessary, more frequent follow-up measurements may be permitted

Know the codes

E21.3

- Hyperparathyroidism

E24.2 iatrogenic, E24.9 unspecified, E24.4 Alcohol induced

- Cushing's Syndrome

E89.4

- Postablative ovarian failure (ovarian failure: iatrogenic, postirradiation, postsurgical) E89.39 infertility diminished ovarian reserve

E28.319

- Premature menopause, E28.310 Symptomatic prematuremenopause

E28.39

- Other ovarian failure (delayed menarche, ovarian hypofunction, primary ovarian failure NOS)

Know the codes

E89.5

Postablative testicular hypofunction (testicular hypofunction: iatrogenic, postirradiation, postsurgical)**E29.1** Hypogonadism, hypotestosterone, angrogen NOS, 5-delta reducaste deficiency

Z13.820

Screening for Osteoporosis

Z82.63

Family History of Osteoporosis

Z87.310

HX of Healed Osteoporosis Fracture

M81.0

Age-related osteoporosis without current Fracture (post-menopausal or senile)

M80.0

Age-related osteoporosis with current pathologic Fracture

Know the codes

I gave you just a few

Be careful your patients aren't referred to you with just osteoporosis codes

This could prevent reimbursement if your patient's results are negative for osteoporosis

Advise your referral facilities appropriately

Revised Procedural Codes 2007

77078-CT bone joint studies

- one or more sites

77080-Central DXA

- one or more sites

77081-Peripheral DXA

- one or more sites

76977-US bone density measurement

- any site