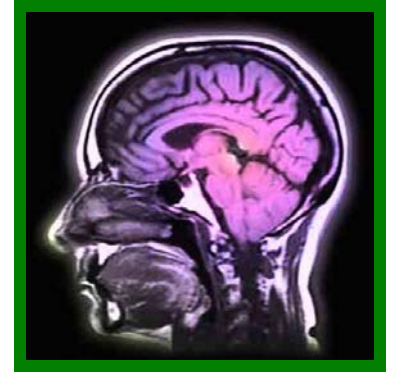




Patient 1



The bones of the spine are identified by number. This x-ray shows the vertebrae of the lumbar spine (lower back). Notice how they are labeled L1 to L5.

1. Which vertebra is closest to the sacrum? (give the letter and number)
2. Which vertebra seems to be out of alignment from the others?
3. What is the name of the bone labeled "A"?
4. What is the name of the bone labeled "C"?
5. What **type of joint** is labeled "B"?
6. Look at the area where the arrow (D) is pointing. Is this a **fracture** (broken bone) or is it **normal**?

CONSULT YOUR MEDICAL REFERENCE GUIDE

PATIENT
1

L1
L2
L3
L4
L5

EX

A

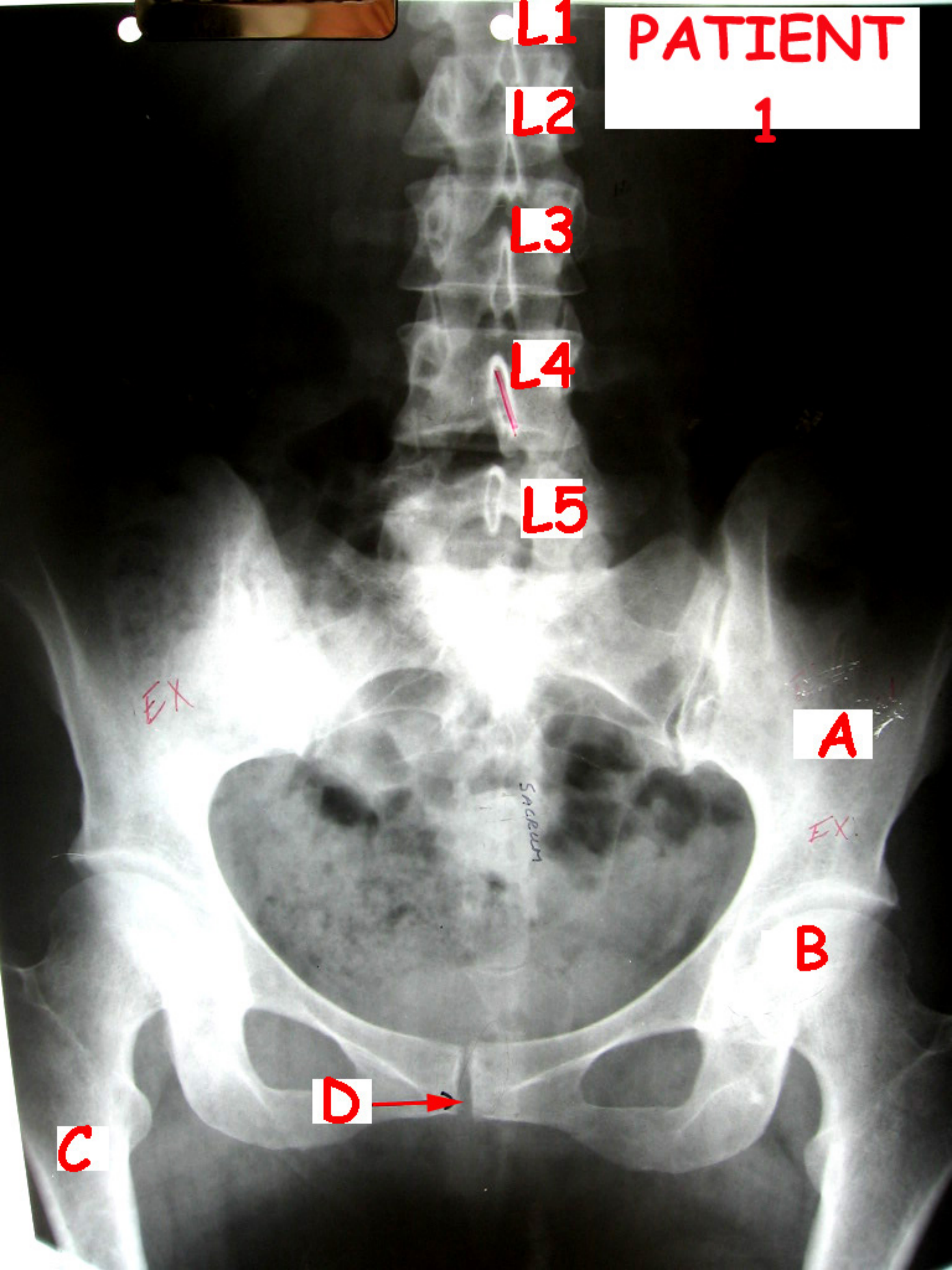
SACRUM

EX

B

D →

C





Patient 2



Your patient has been complaining of headaches and a stiff neck. After examining this x-ray you are confident you have discovered the problem.

7. The line drawn on the x-ray indicates the spine is not properly lined up. The patient is suffering from a _____ (choose one)

- simple fracture
- hairline fracture
- subluxation
- dislocation

(HINT: consult your Medical Reference guide)

8. At which two vertebrae does the twist (misalignment) occur? (choose one)

- C7 and T1
- T1 and T2
- T2 and T3
- T4 and T5

9. What is the name of the bone marked "A"?

10. What is the name of the bone marked "B"?

11. What treatment would you recommend for this patient?

- adjust the spine
- surgery
- amputation (remember, this is a neck problem)

**PATIENT
2**

A **A** **A**

C6

C7

T1

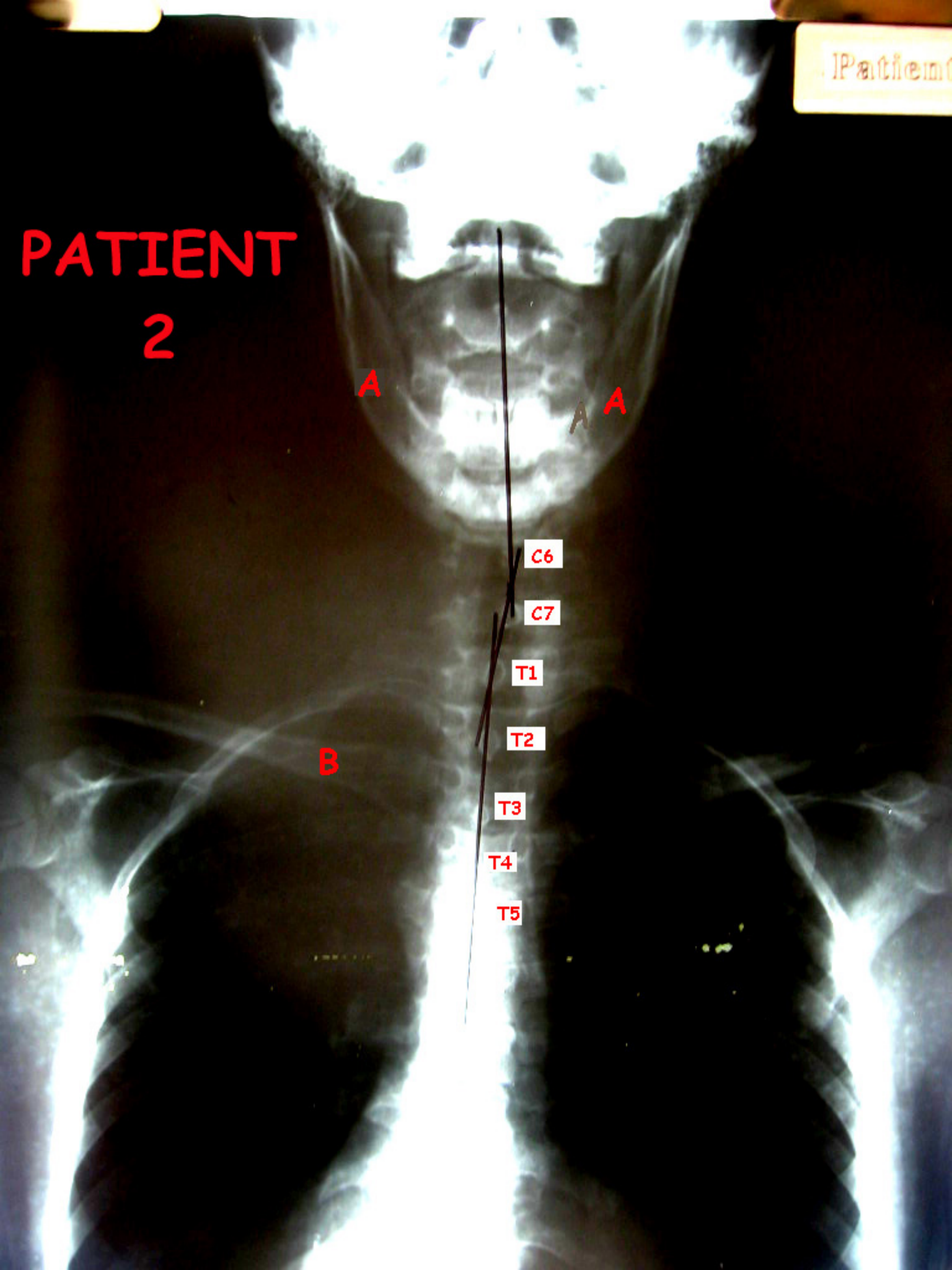
T2

B

T3

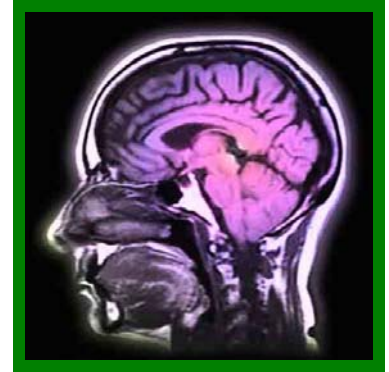
T4

T5





Patient 3



Leonard Karpofolitz was riding his horse when a mutant killer skunk leaped out of the brush causing the horse to rear. Leo fell off of the horse and landed on his **left shoulder**.

12. The arrow points to a bad fracture. Which bone is broken?

13. Which **type of fracture** do you think this is?

14. Are you looking at Leonard from the **front** or **back**?

Carefull!! This can be a very tricky question.

15. The letter "A" shows the space where cartilage is found in the shoulder joint. How is the other shoulder (letter "B") different?

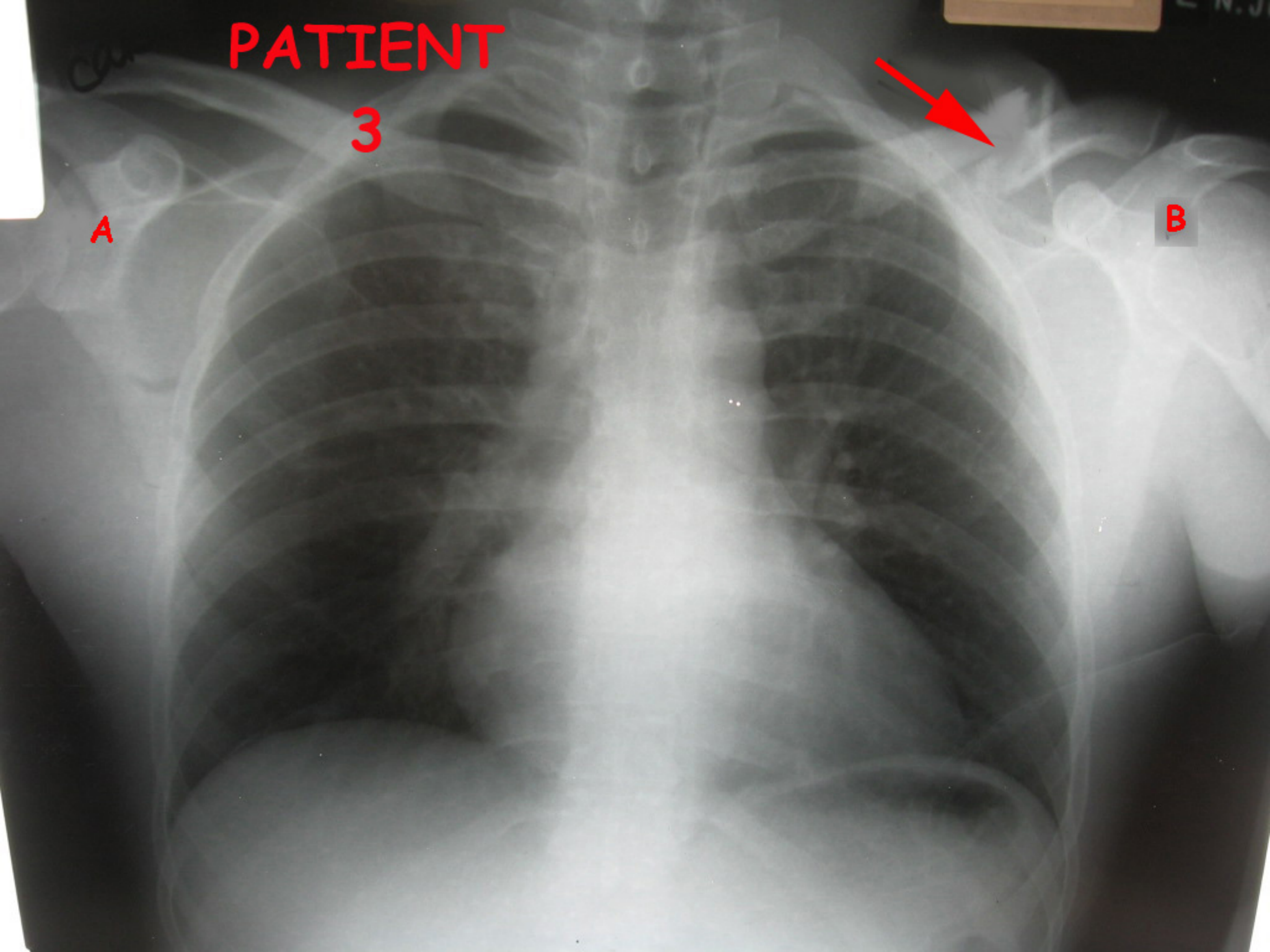
16. What happened to the space in shoulder "B"?

PATIENT

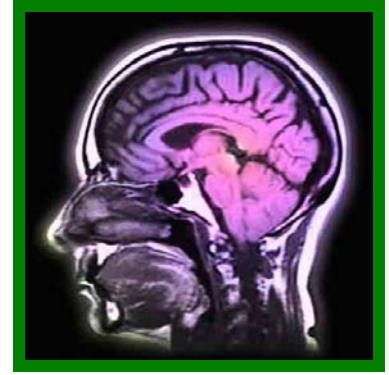
3

A

B



Patient 4



Polly Perkovitz took a tumble off the uneven parallel bars but like any good gymnast she landed on her feet. She landed slightly off balance, however, and suffered a rather unusual **fracture** to her left leg.

17. Label the bones:

- a. _____
- b. _____
- c. _____
- d. _____

18. The arrows point to the fracture? (almost missed it, didn't you?) What is the name of this bone?

19. The thin fracture circles around the bone. What **type of fracture** is it?

PATIENT

4

C

B

A

BACK VIEW



L.N.0001

D



SIDE VIEW





Patient 5



X-rays are not only for bones. Doctors can find out about soft tissues as well by injecting a dye into the area to be examined. The dye shows up as *white areas* on the film.

20. Letter "A" shows the location of the **kidneys**; organs which clean the waste from the blood. Is there any **dye** in the kidneys?
21. Letter "B" shows the **ureters**; tubes which lead from the kidneys to the urinary bladder. Is there any **dye** in the ureters?
22. Letter "C" shows the **urinary bladder** which stores urine. Is there any **dye** in the bladder?
23. If there were a problem in the **Urinary System** there would be obstructions and the dye would not go through the system. Do you see any obstructions?
24. Your diagnosis, doctor? (choose one)
 - normal urinary system
 - obstructed urinary system

PATIENT

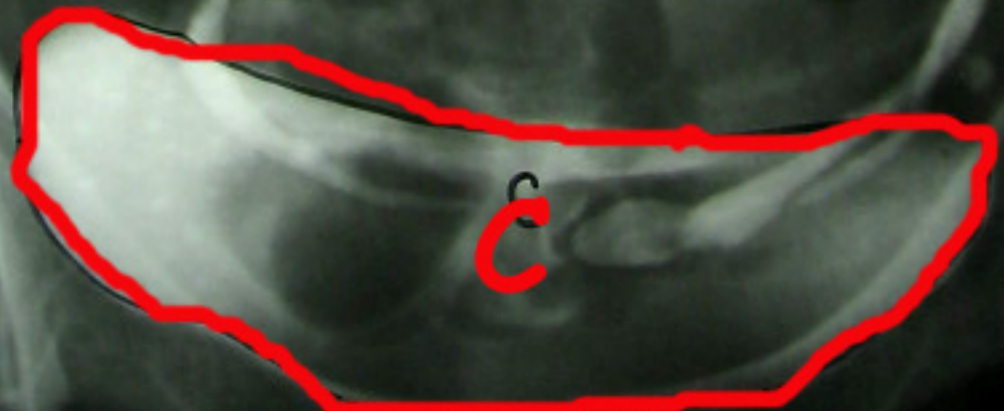
5

A

A

B

B



C

Patient 6



Never stick your arm in an elevator door!

25. What's the matter with this patient?

26. What is the specific name given to this type of injury?

27. What **type of joint** is at "A"?

28. What is the name of bone "B"?

29. What **type of joint** is at "C"?

PATIENT

6

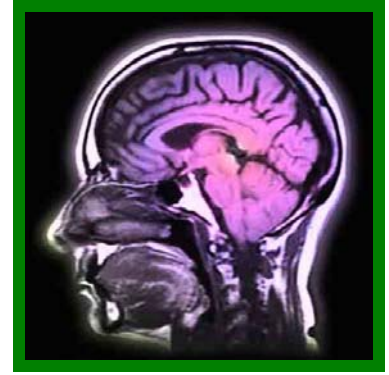


B

C



Patient 7



After sticking his hand in a closing elevator door, **Miles Giles** required 3 $\frac{1}{2}$ hours of orthopedic surgery to put it back together.

30. The name of the broken bone is the _____.

31. What did the surgeon use to fasten the steel plate to the bone?

32. What is the name of bone "A"?

33. What is the name of bone "B"?

34. What is the name of **joint "C"**?

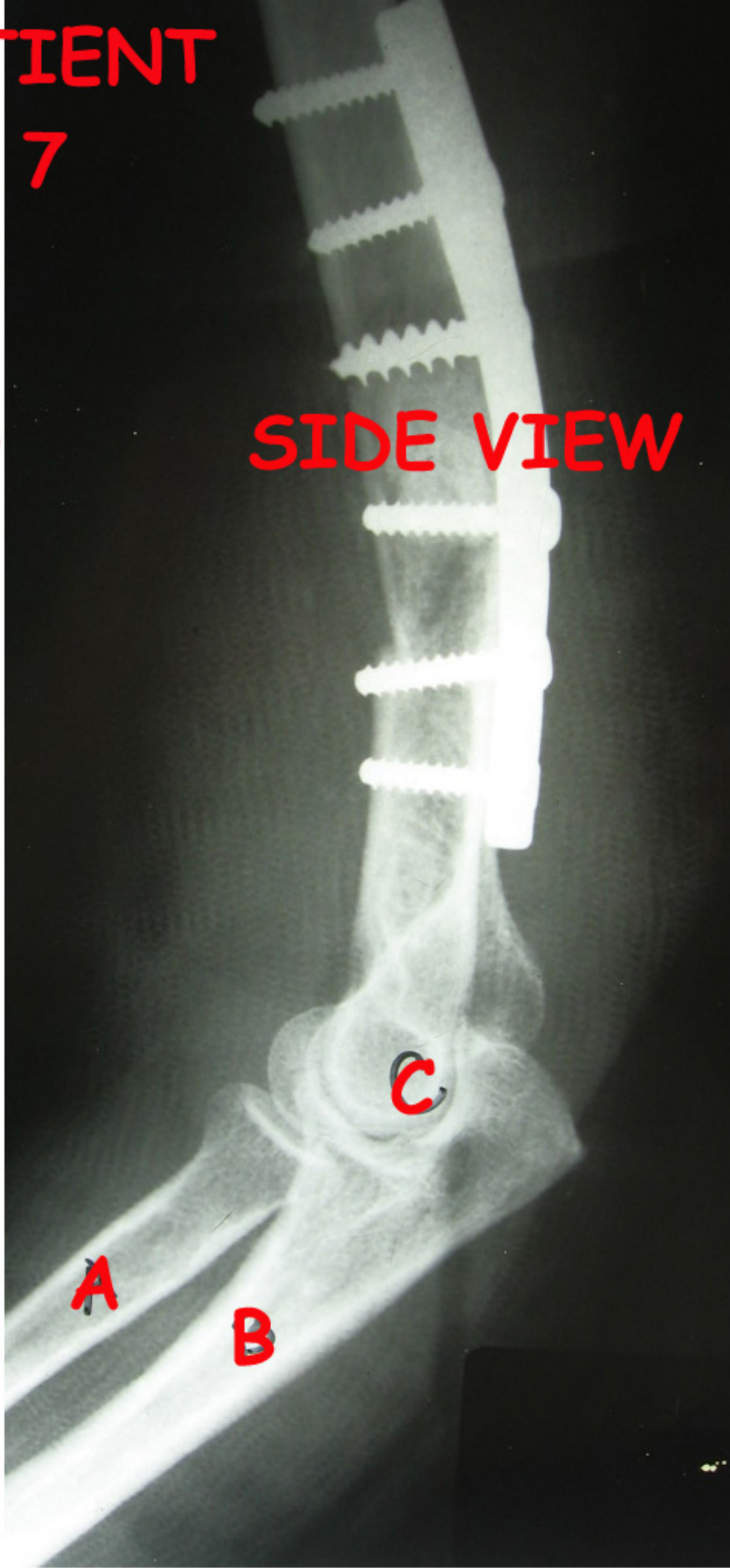
35. What **type of joint** is at "C"?

PATIENT
7

FRONT VIEW

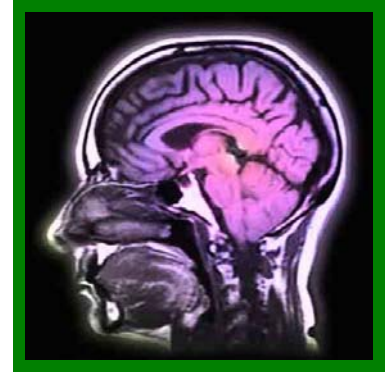


SIDE VIEW





Patient 8



OH! My aching back!!

This type of x-ray is called a **Myelogram** (mile-O-gram). It shows the condition of the spinal cord. The spinal cord appears white due to an injection of dye. This patient has a ruptured disk which is applying pressure to the spinal cord.

36. Between which two vertebrae is the bulging disk located?

37. This patient is suffering pain in the _____ (pick one)

- upper back
- lower back
- neck
- foot

38. What **type of joint** is found in the spine?

PATIENT
8

T11

T12

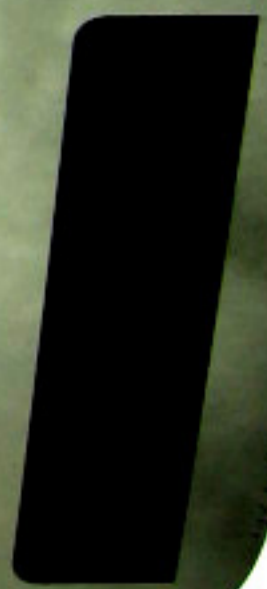
L1

L2

L3

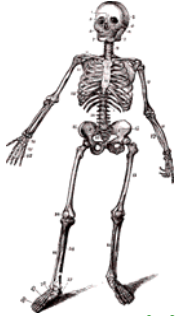
L4

L5



KODAK FIBEX HEADWAY
15409 H

Patient 9



Yolanda Flugelhoffer, premier elephant trainer for the Barnum and Bailey Circus, suffered this injury when her newest elephant mistook the command "Go Forward" for "Sit Down". The flight for life helicopter removed the elephant and Yolanda was taken to the nearest hospital by ambulance.

39. What is the name of the bone that has been broken?

40. What **type of fracture** do you think this is?

41. What **type of joint** is at letter "A"?

42. What type of treatment do you think will be required to fix Ms. Flugelhoffer? (pick one)

- a simple plaster cast
- simple surgery to set the bone
- major surgery to fasten the bone together with some type of hardware (pins, plates, screws, etc)
- a new job training toy poodles

PATIENT

9

A

A photograph of a patient's shoulder and upper arm. The patient's name 'PATIENT 9' is written in red in the top left corner. A red letter 'A' is written on the right side of the image. The shoulder area shows a large, bright, circular area of discoloration or bruising, possibly indicating a fracture or a significant injury. The rest of the arm and shoulder appear relatively normal.

Patient 10



... the arm bone's **Disconnected** to the shoulder bone ...

43. Bone "A" is the _____.

44. Bone "B" is the _____.

45. Bone "A" fits into bone "B" but it has **popped out of its socket**. What is this type of injury called?

46. This type of joint known as a _____ and _____ joint.

47. Are there any other injuries on this x-ray? If yes, describe.

"SOCKET"

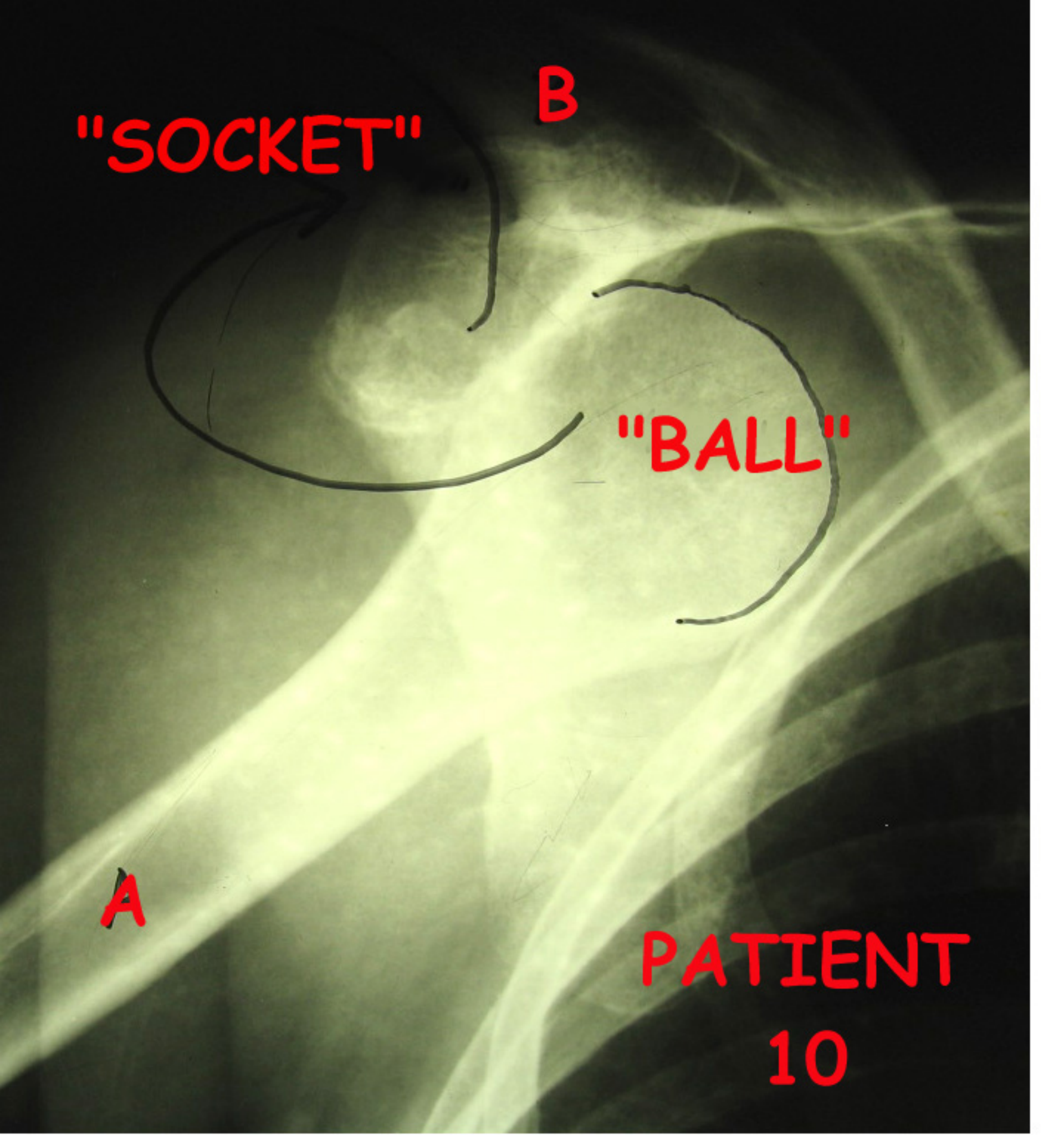
B

"BALL"

A

PATIENT

10



Patient 11



This small child decided she didn't trust the local banks so she deposited her nickel in a "safer place".

48. According to the x-ray, the nickel is lodged somewhere in the _____

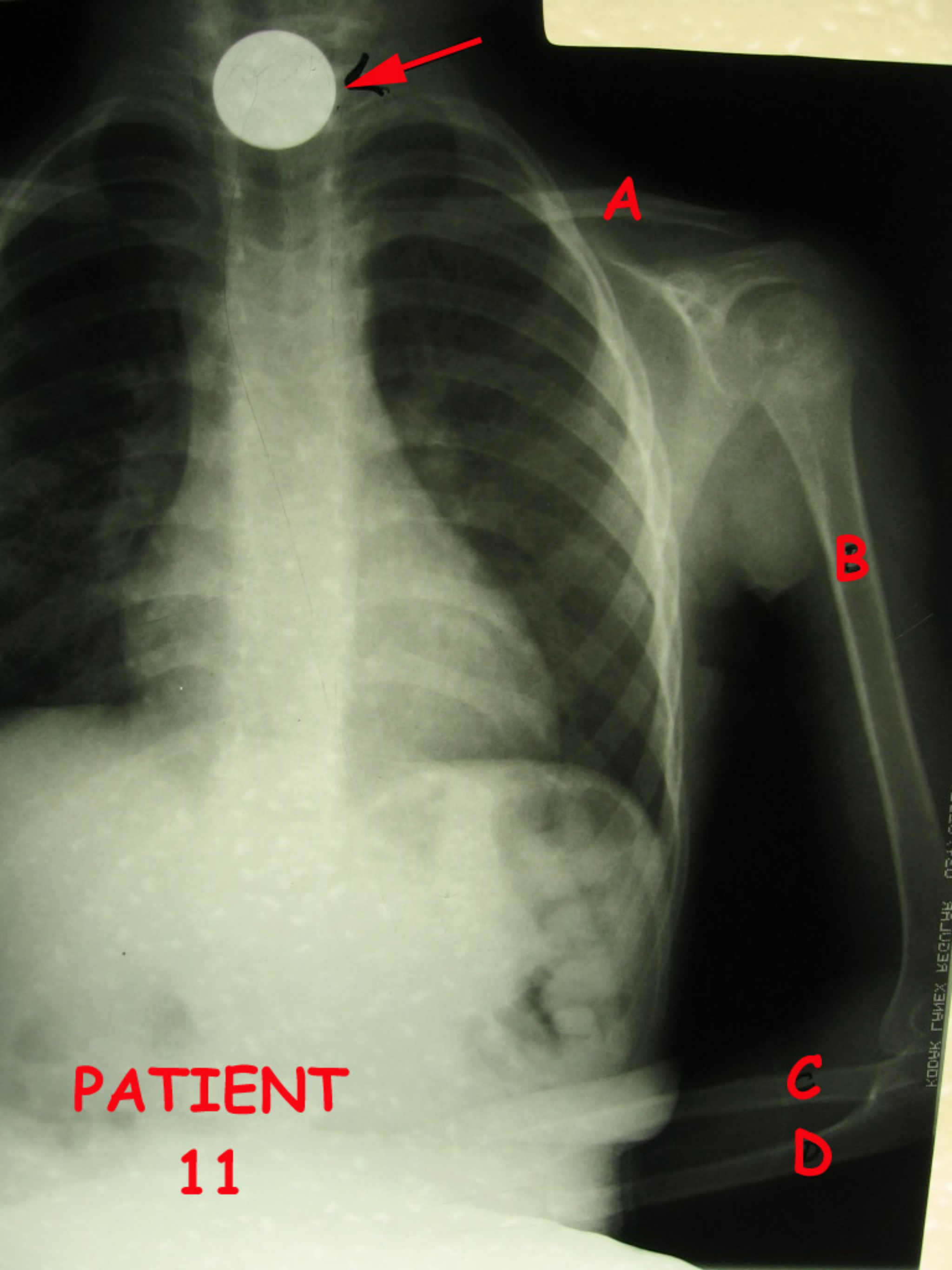
- head
- neck
- chest
- stomach
- all of the above

49. Name the bones:

- A _____
- B _____
- C _____
- D _____

50. How do you think the nickel should be removed? (notice the size of the nickel compared to the size of the throat)

- pull it out through the mouth with instruments
- remove from the neck with surgery
- allow it to pass into the digestive system and out of the body



A

B

C

D

PATIENT

11

KODAK GYMEX RECORDER

Patient 12



Yummy, yummy, yummy I've got money in my tummy...
This small child swallowed a coin and it slid all the way down
to his stomach.

51. Which arrow points toward the coin?

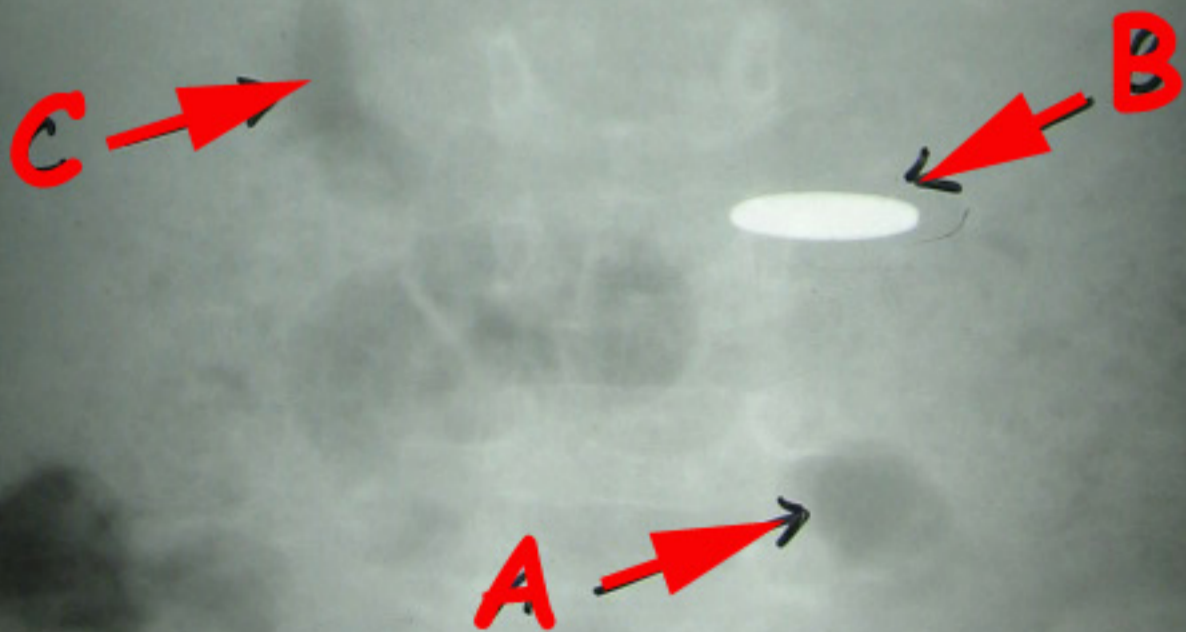
52. What is the name of the bone labeled "D"?

53. How do you think this coin was removed?

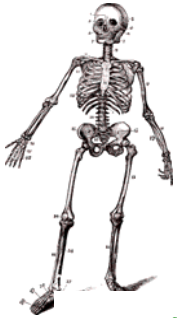
- pulled out through the mouth with instruments
- removed from the stomach with surgery
- allowed to pass through the digestive system to be "found" at a later date

D

**PATIENT
12**



Patient 13



This is an x-ray of a fractured ankle that has been repaired with surgery.

54. Name the bones:

- A _____
- B _____
- C _____
- D _____

55. What has been used to hold the bones together? (choose one)

- wires
- plaster cast
- steel plate
- pins
- screws

PATIENT

13

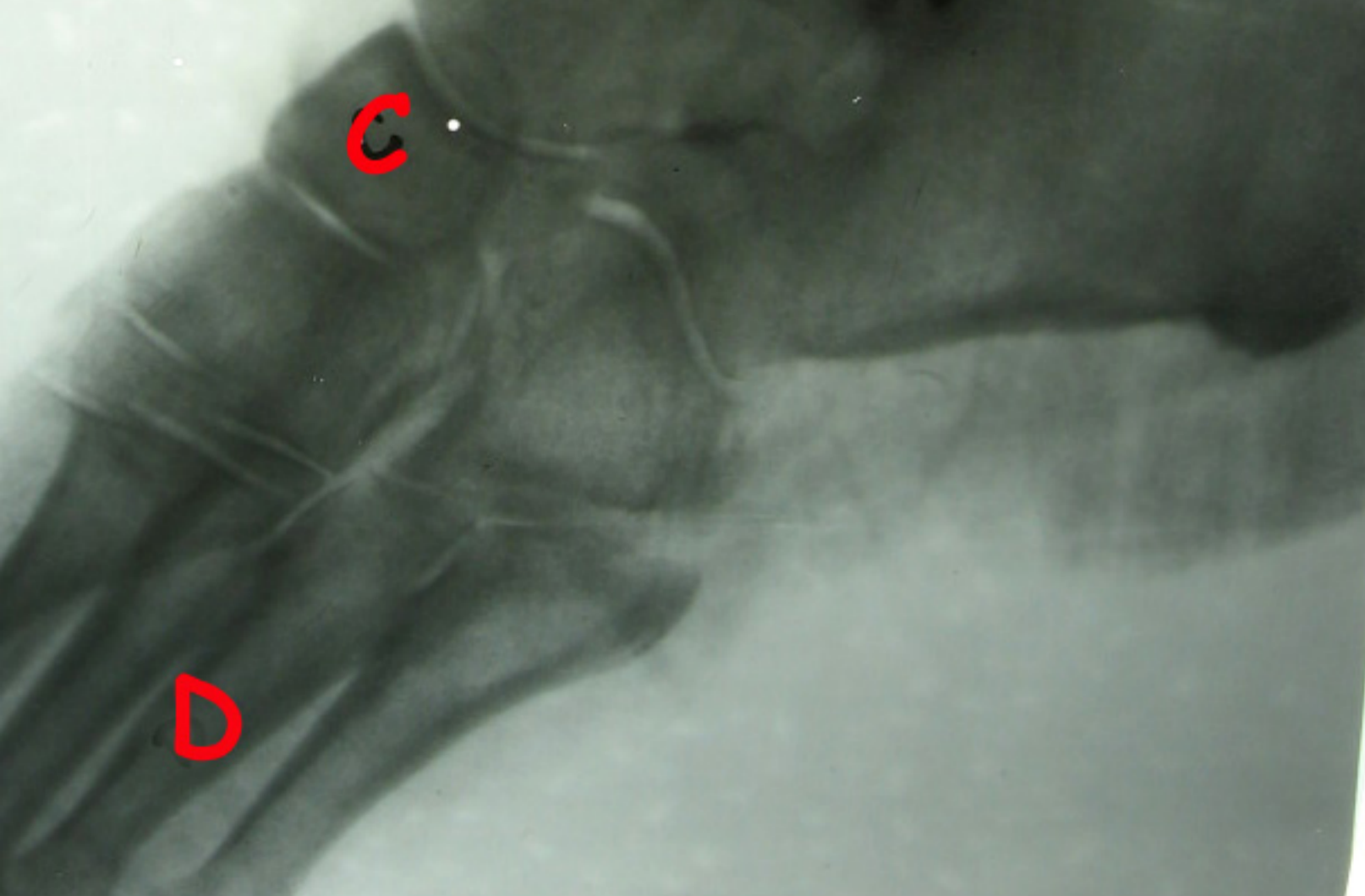
A.

B



C

D



Patient 14



This is an x-ray of a hip joint after surgery.

56. What is the name of the bone labeled "A"?

57. The pelvis is divided into several bones. Part B is called the _____.

58. Describe the "hardware" used to fix this joint.

59. According to the diagram, the area labeled "C" is called _____.

- obturator foramen
- ischium
- sciatic notch

PATIENT

14



C

B

A

Patient 15



The ELECTRONIC MAN?

This patient has a problem with an irregular heart beat. A battery operated *pacemaker* has been implanted under his skin to help regulate his heart.

60. The pacemaker has wires that lead to the _____.

61. This pacemaker is located under the skin on the patient's right/left _____ side. (Choose one)

62. The pacemaker sends a mild electrical signal to the heart to keep it in rhythm. What do you suppose is done when the batteries run down?

63. How could you describe the pacemaker? (what does it look like)

PATIENT

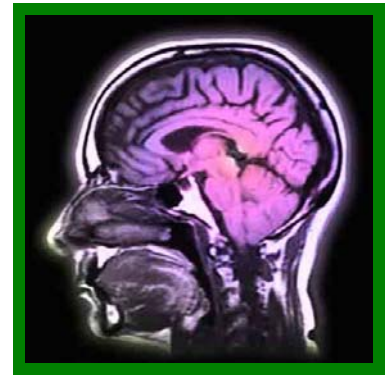
15

HEART





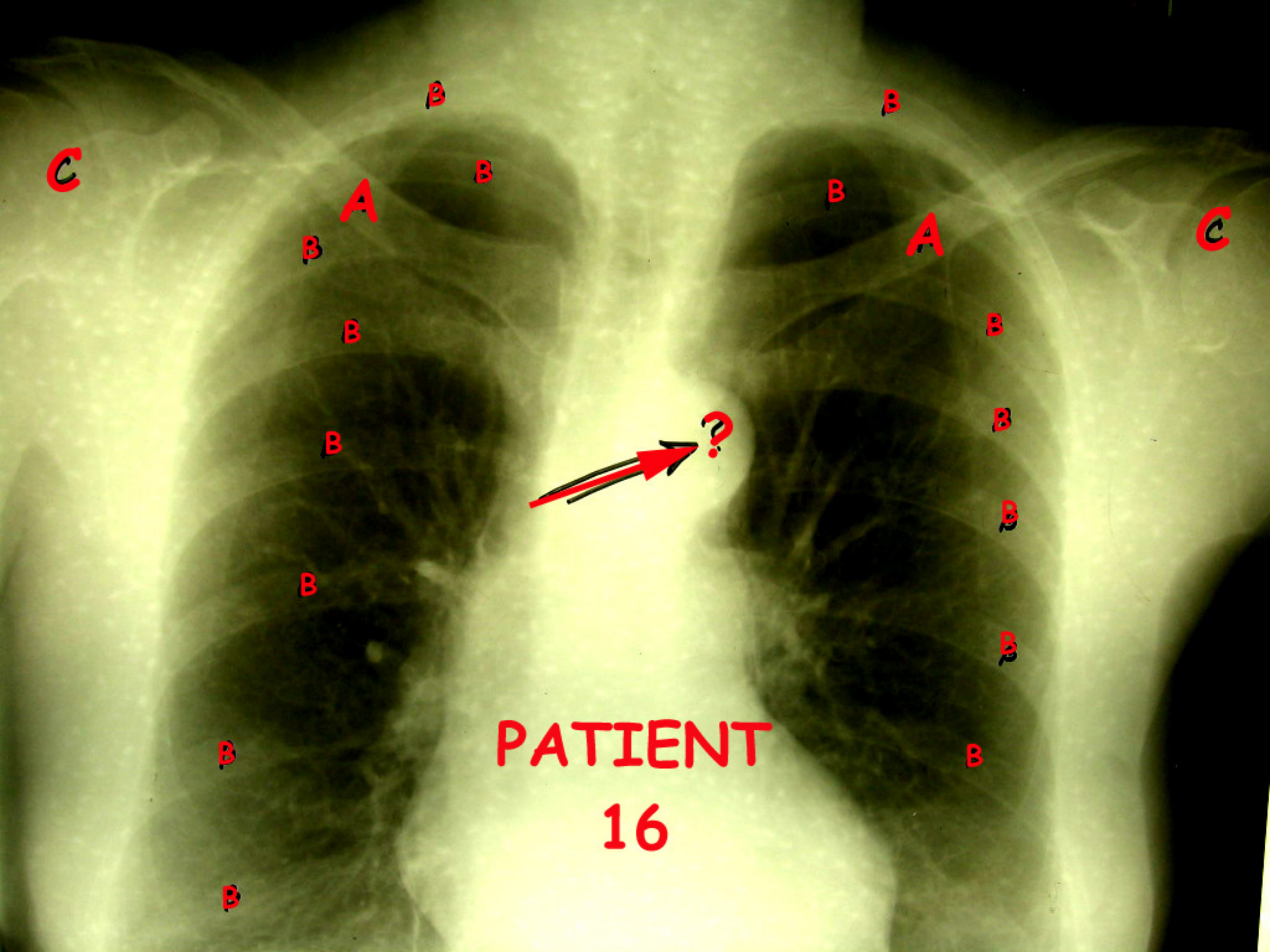
Patient 16



This patient's car slid off an icy road and crashed into a barn full of Christmas turkeys. When the feathers settled she was taken to the hospital complaining of soreness in her chest. As head radiologist, it is your responsibility to diagnose her condition.

64. You begin by looking for broken bones:
- A. Are the clavicles broken?
 - B. Are any ribs broken?
 - C. Is there a shoulder dislocation? (bone out of its socket)
65. The patient came in with a neck brace as a precaution. Does this x-ray show any evidence of a broken neck?
66. It is now time to make a decision. Sending an injured person home will send your malpractice insurance premium through the roof. What is your diagnosis, doctor? (pick one)
- multiple broken bones; **keep in hospital**
 - no broken bones but suspicious spots on the lungs (possibly inhaled turkey feathers); **keep in hospital**
 - perfectly normal; **send home but no poultry for a week**

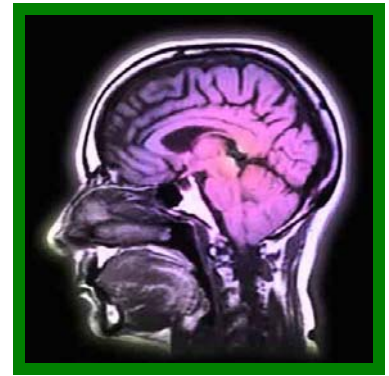
Hint: Whatever answer you pick is the right one ... you're the doctor!



PATIENT
16



Patient 17



Several hours before this x-ray was taken the patient was instructed to drink a Barium Solution. Barium absorbs x-rays causing the intestines to appear white. If there is no blockage, the intestine will appear white. If there is a blockage, the intestine will appear dark in that area.

Light Intestine - BLOCKAGE
Dark Intestine - NO BLOCKAGE

67. Are there any blockages in the intestine?

68. Indicate whether the following areas of the intestine are **blocked** or **not blocked**.

A _____

B _____

C _____

D _____

E _____

69. Most of the vertebrae shown are _____. (choose one)

- cervical (neck)
- thoracic (chest)
- lumbar (lower back)

PATIENT

17

T12

L1

B

A

L3

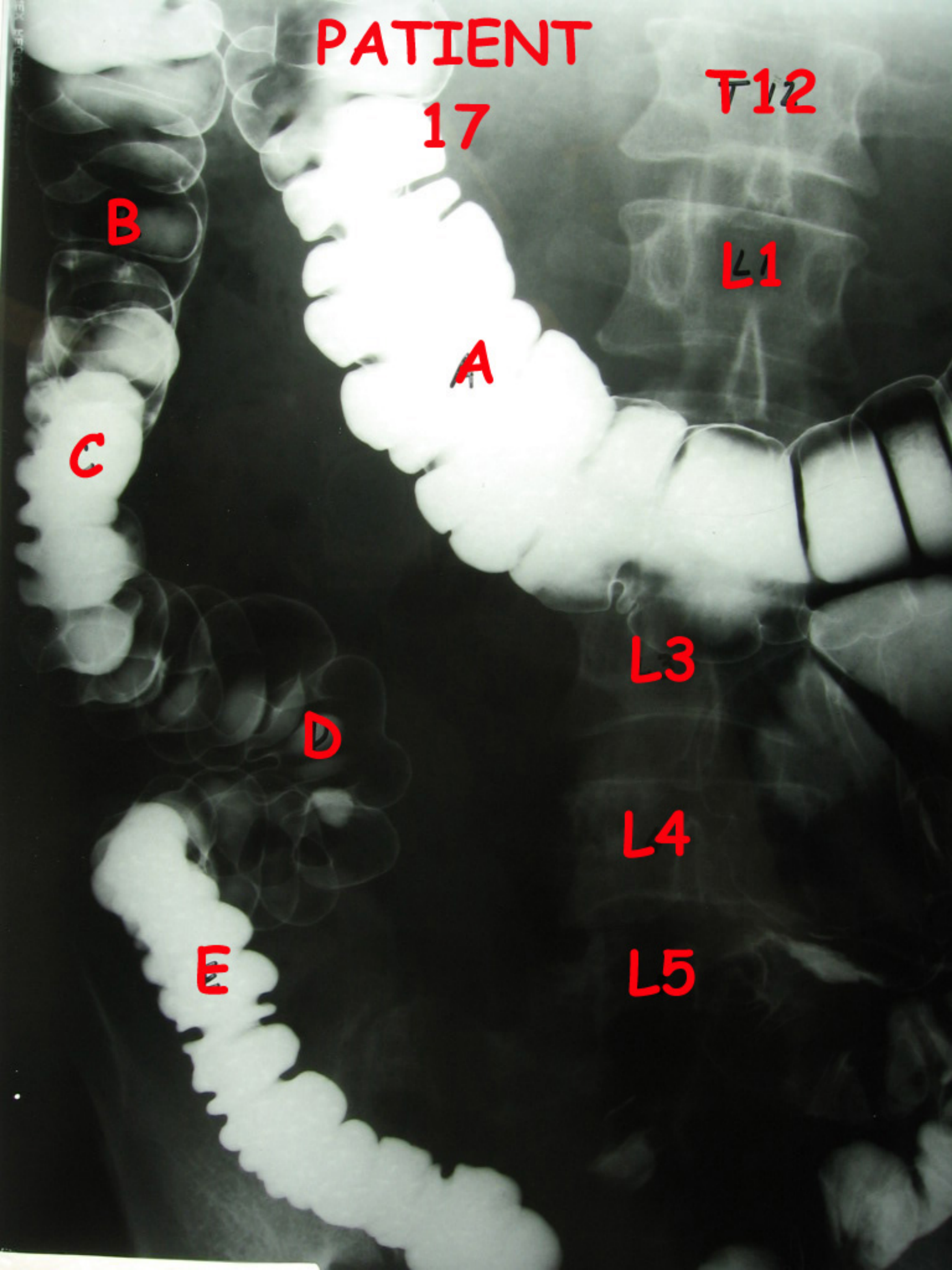
C

D

L4

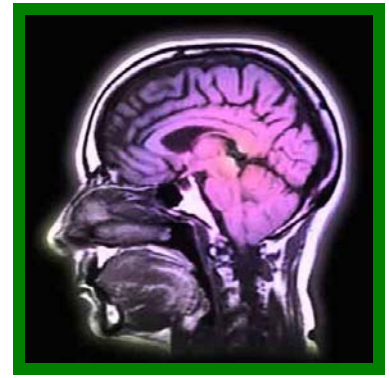
E

L5





Patient 18



This x-ray of the cervical spine clearly shows some interesting parts of anatomy. See if you can locate them.

70. Matching:

_____ Atlas

_____ Axis

_____ Hyoid bone

_____ Spinous process

_____ Tooth root

_____ Fillings in teeth

a. arrow A

b. arrow B

c. arrow C

d. arrow D

e. vertebra C1

f. vertebra C2

Patient
18

C1

C2

C3

C4

C5

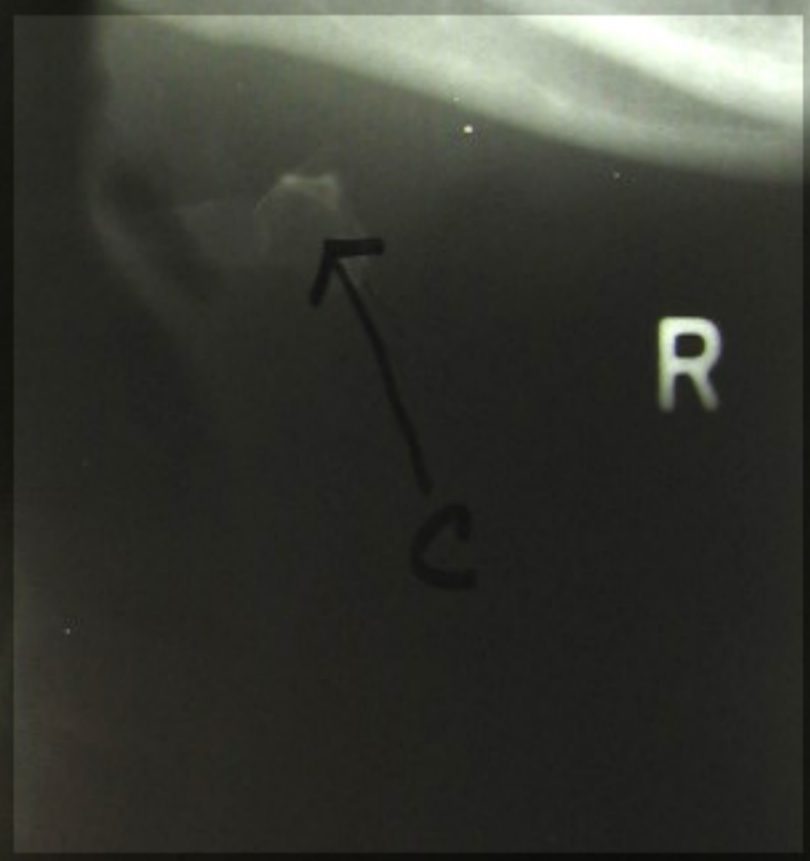
C6

C7

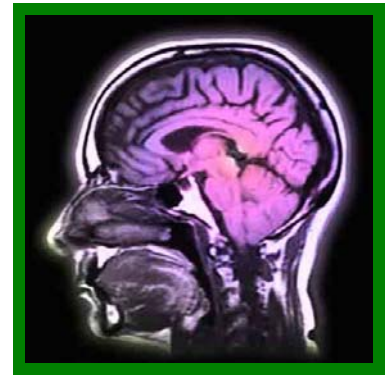
T1

A

B



Patient 19



The Incredible Hand

71. Label the bones:

A _____
C _____

B _____
D _____

72. Is this the hand of a man or a woman? (Look carefully for a very good clue)

73. How did you know?

1 J 171

A B

PATIENT
19

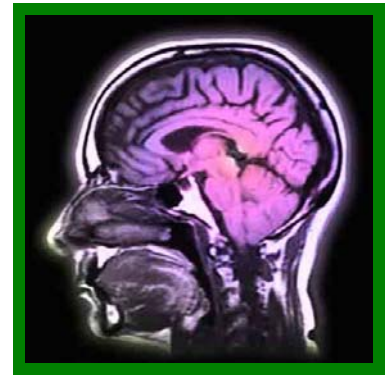
C

D

E



Patient 20

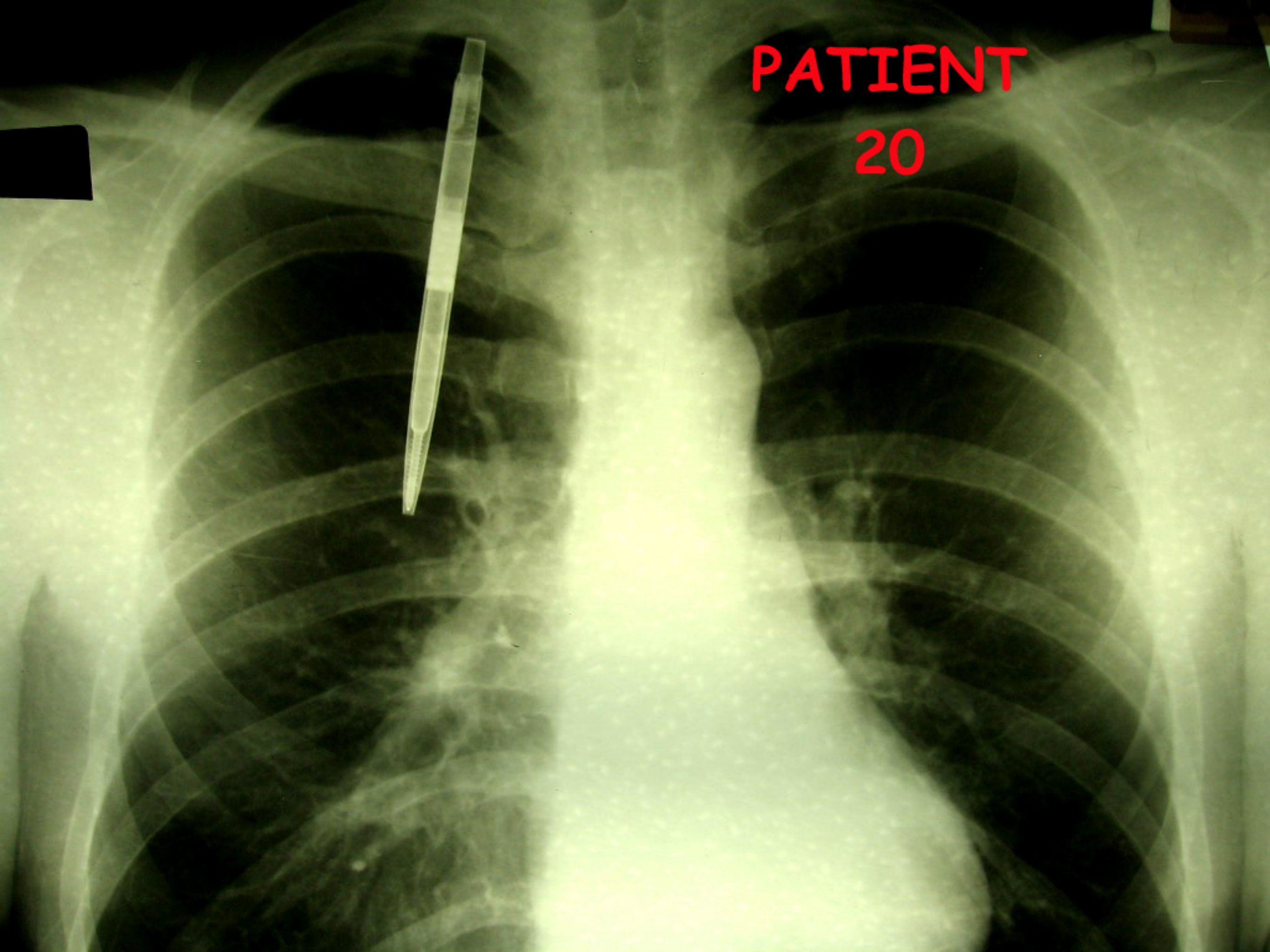


Abnormal Chest X-ray?

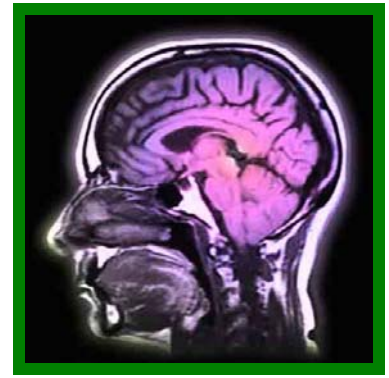
Perhaps the world's most astonishing medical mishap occurred during the 10th Annual Glass Blowing Competition held in Klagenfurt, Austria. Defending champion **Arnold Schwartzensniffler** drew in such a deep breath he accidentally inhaled the judge's pen through his nose!! The pen became lodged in Arnold's right lung leaving doctors clueless as to how to get it out!

74. This accident occurred during the _____ annual glass blowing competition.
75. The pen belonged to the _____.
76. In the event the explanation given above is incorrect, how else could you explain this x-ray?

PATIENT
20



Patient 21



"When I go fishing I wish I could just catch fish sticks, it would be a lot more convenient"

Yoloff Svenson

Catch of the Day!

While fishing off the coast of Goteborg, Sweden, fisherman **Yoloff Svenson** reeled in this 42 pound whopper. His prize catch, however, was disqualified by the Guinness Book of World Records when it was discovered that the "fish" was actually Yoloff's grandson. The lad was snagged while playing underwater with the boat's propeller.

The boy has a sore toe but is otherwise doing well. Yoloff was awarded the consolation prize, a new pair of glasses!

77. What seems to be this youngster's problem?

78. Did the hook go into the bone?

79. Notice the spaces between the bones of the young child's foot. The bones have a lot of growing to do. The spaces are currently filled with _____

- cartilage
- muscle
- air

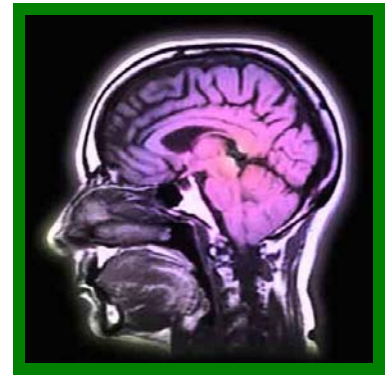


PATIENT
21



MB

Patient 22



A "Humerous" Story

Nothing funny here! When falling out of a tree, little **Lenny Crawford** stuck out his arm to break his fall. Unfortunately, the fall is not all that was broken.

80. What is the name of the broken bone?

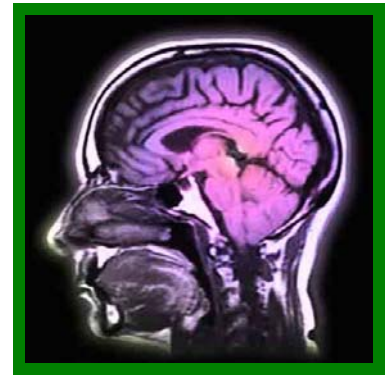
81. What type of fracture is it? (HINT: I can see some extra bone fragments)

**PATIENT
22**



X-Rayted Lab

Patient 23



YOU'RE THE DOCTOR!

Your patient limps into the emergency room and faints before he can tell you where it hurts. This film is of his right ankle.

82. What is your diagnosis, doctor? Be specific (whatever you decide, make it sound good)

CONSULT YOUR MEDICAL REFERENCE GUIDE

PATIENT

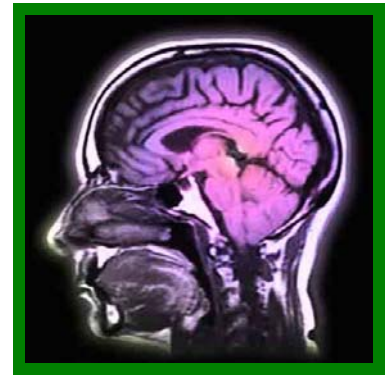
23



X-Rayted Lab



Patient 24



NEWS BULLETIN: BODY INFESTED WITH COIL WORMS!!

This portable chest x-ray shows some unusual "things".
Can you explain?

83. These "worms" are actually coaxial cables used to hook up various heart and lung monitors. DRAW a short section of this cable.

Place your drawing in the box on your answer sheet.

84. What circulatory organ do you think letter "A" is?

85. What respiratory organ do you think letter "B" represents?

CONSULT YOUR MEDICAL REFERENCE GUIDE

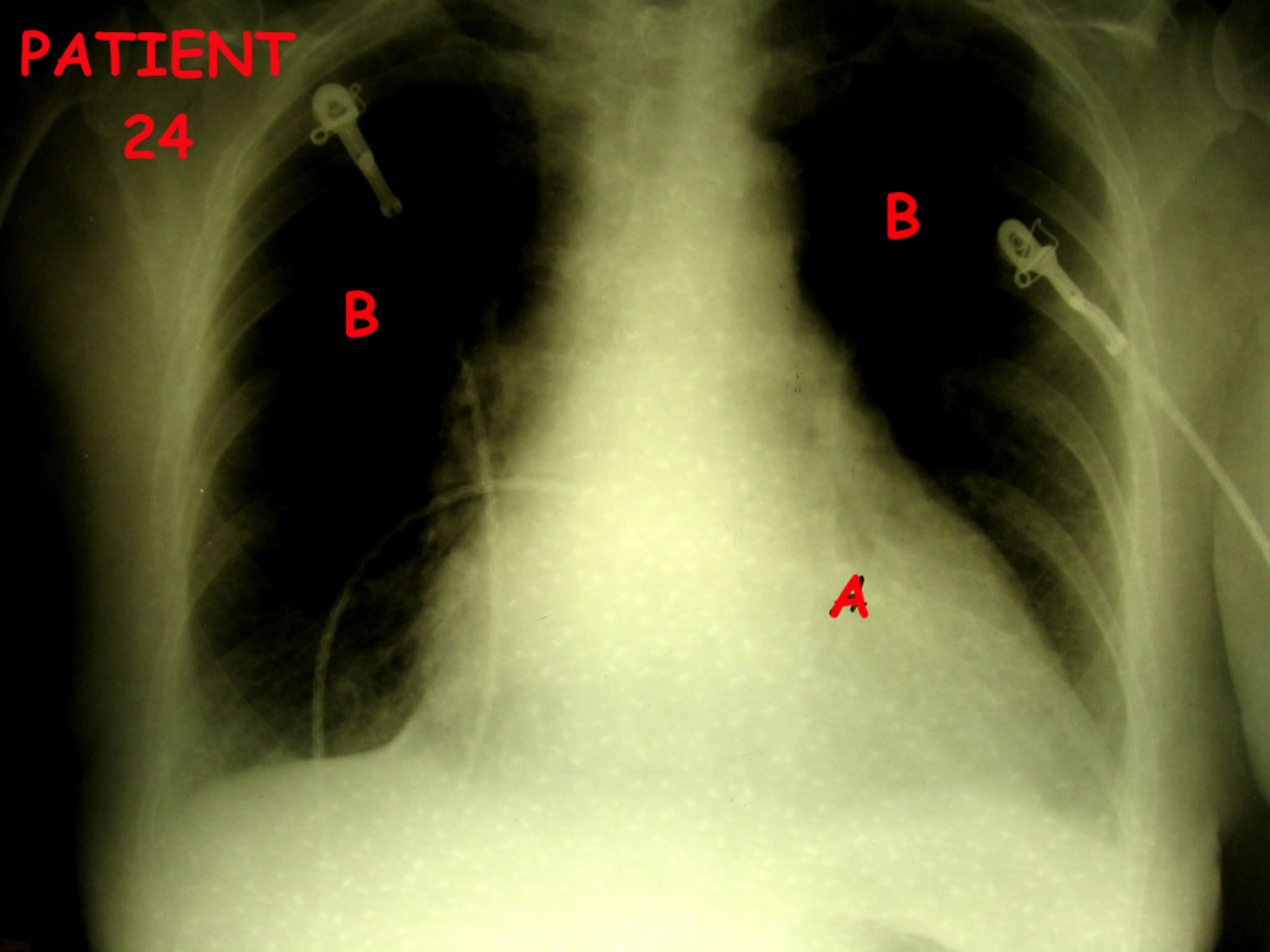
PATIENT

24

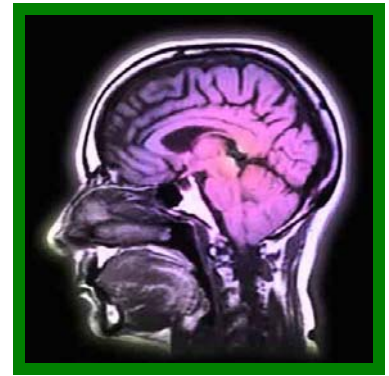
B

B

A



Patient 25



JUST A COOL DUDE IN A LOOSE MOOD!

This is not exactly Chester Cheetah but it is a member of the same family. This domestic feline posed for the x-ray camera long enough to get this picture.

86. Compare the spine of the cat with that of a human. Fill in the number of each type of vertebrae on your answer sheet.

	<u>Human</u>	<u>Cat</u>
Cervical	_____	_____
Thoracic	_____	_____
Lumbar	_____	_____

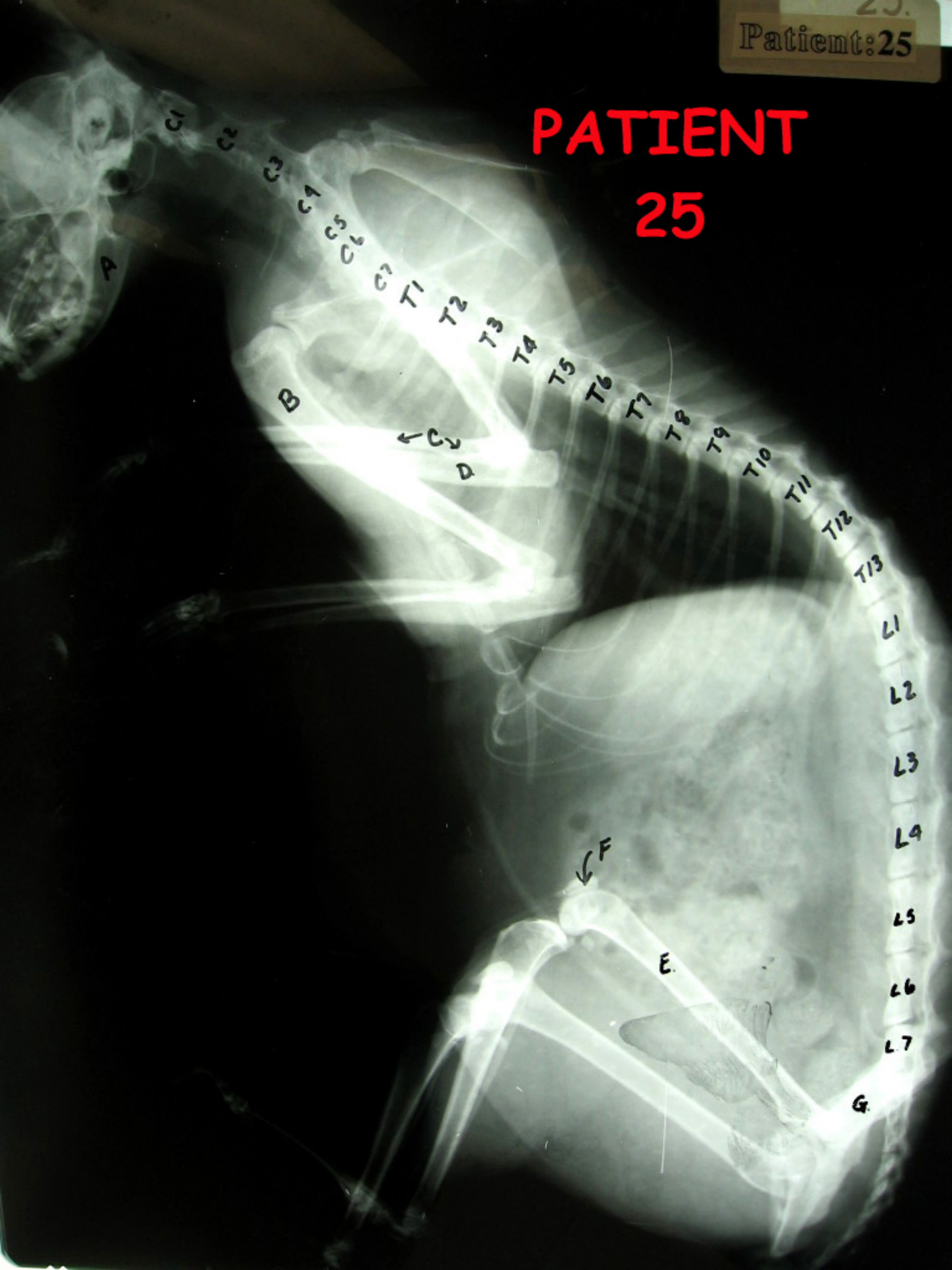
87. How is the cat spine different from ours? Be specific

88. Name these bones of the cat skeleton (the names are similar to those of human)

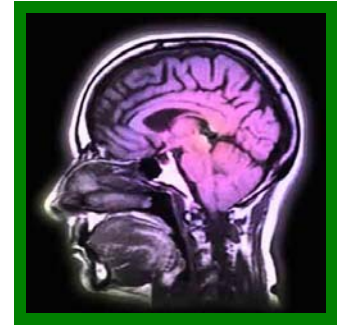
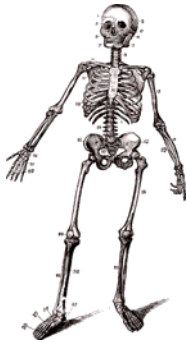
- A _____
- B _____
- C _____
- D _____
- E _____
- F _____
- G _____

25.
Patient: 25

PATIENT 25



Patient 26



THE MIRACLE OF LIFE!

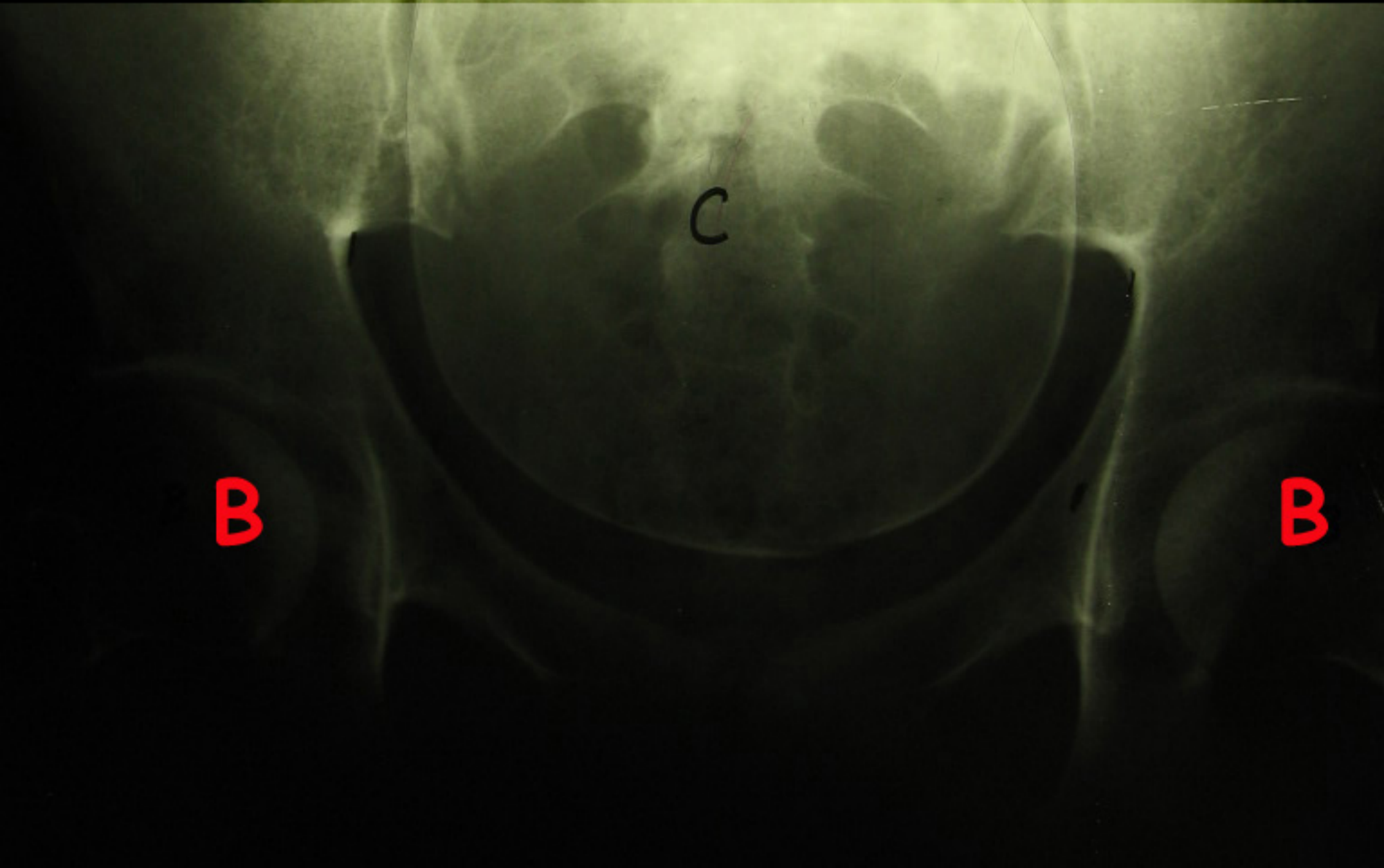
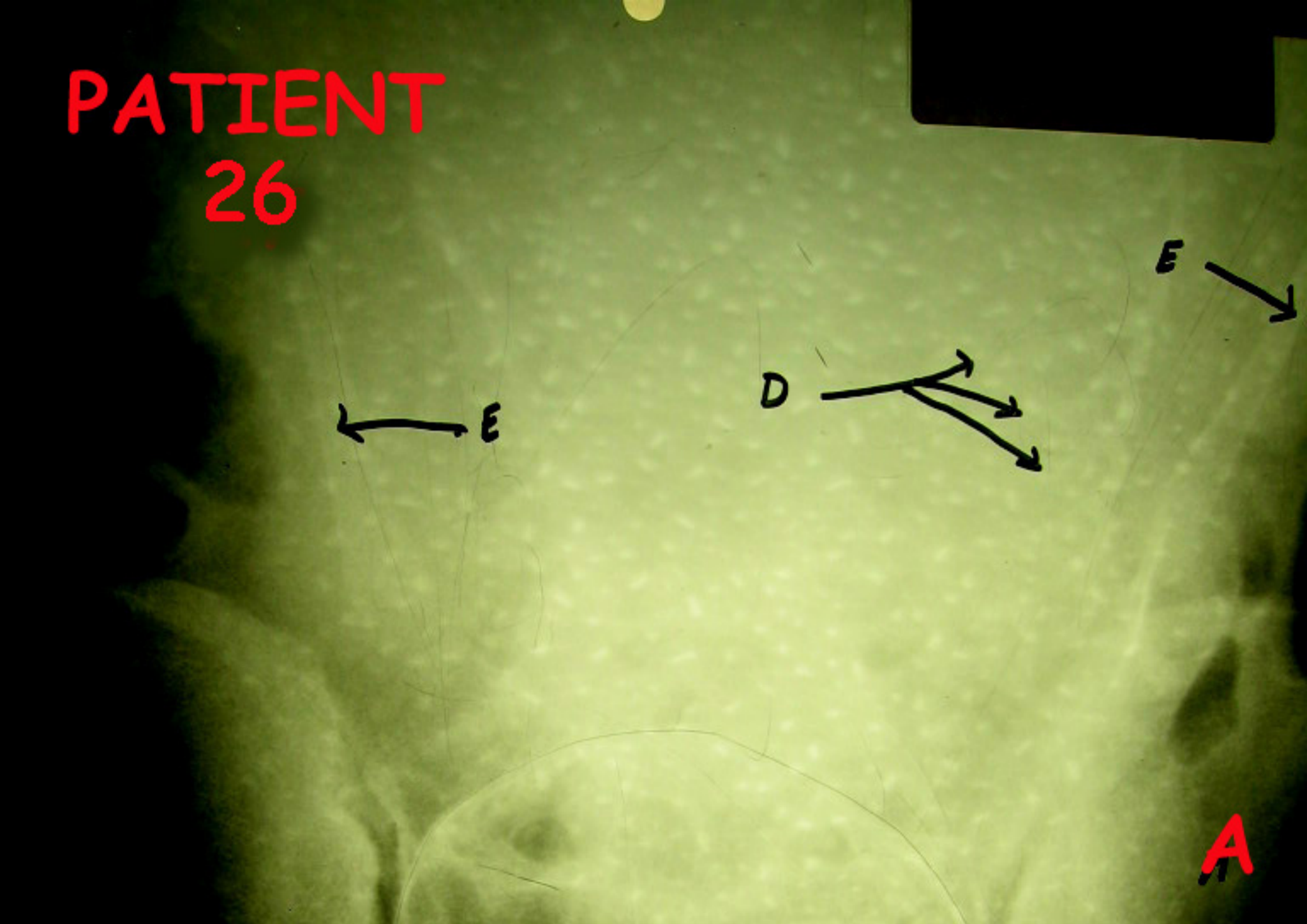
This is a fascinating picture of a baby just hours before being born. It is such a neat x-ray I will not ruin it with any silly stories. The more carefully you study it the more you will see and appreciate!

89. The letters marked "A" show the pelvis of the mother. This part of the pelvis is called the _____.
90. Letter "B" shows the ball end of the mother's _____. (name the bone)
91. What is the large round object (marked "C") inside the pelvis?
92. What other parts of the baby can you see in this x-ray?

Part D? _____

Part E _____

**PATIENT
26**





Patient 27

EXAMINE PATIENT 26 FIRST

A DOUBLE MIRACLE!

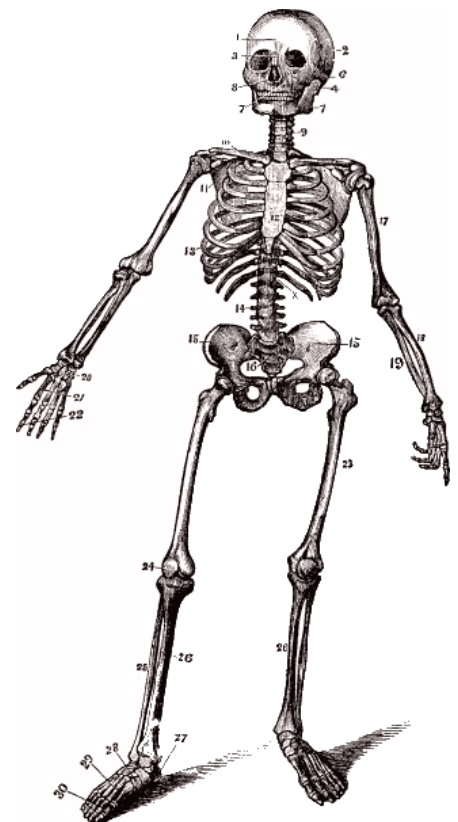


After studying patient 26, you will have an easier time seeing what is so special about this x-ray!

93. What is so special about this x-ray?

94. Look carefully for several minutes; see how much detail you can see. Write **YES** for the things you can see and **NO** for the things you cannot see in the x-ray.

- a) baby A's head _____
- b) baby B's head _____
- c) baby A's spine _____
- d) baby B's spine _____
- e) baby A's arm (humerus) _____
- f) baby B's arm (humerus) _____
- g) baby A's leg (femur) _____
- h) baby B's leg (femur) _____





A

B

PATIENT
27