Delphi

AP Lateral Questions

Why can't I use the scoliosis mode for the AP of an AP/Lateral pair?

Hologic recommends that you do not use the scoliosis mode for an AP/Lateral pair.

If a patient has known scoliosis, should I still attempt to acquire an AP/Lateral pair?

Scan the AP to determine angulation. The tracking line verifies the angle of the center of the vertebral bodies from L2 to L4. If the angle is less than or equal to 5°, you can perform a Lateral exam.

Why can't I move the ROI of the lateral vertically?

It is important for the baseline compensation algorithm that the AP and Lateral bone regions coincide. If the ROI of the Lateral spine is moved vertically, then the total AP and Lateral bone regions will not coincide.

Why do I have to place the sub-region to fit just inside the vertebral body?

The sub-regions within the individual vertebral bodies ensure that the vertebral bodies are identified as bone, despite their lower BMD.

Why is the sub-region placed just in front of the vertebral body?

When you place the dotted line in position just in front of the vertebral bodies of L2-L4, the system uses the position to determine its calculations. For example, if an aortic calcification was seen to the right of the dotted line, the system would not calculate results for that calcification because of the line position.

Why are the lateral results reported in cm^3 instead of cm^2?

There are three dimensions to the results, instead of two.

What is the importance of performing a lateral scan?

Performing a lateral scan produces a true reading of the vertebral bodies without any type of interference.

Should I use LBMD software if the AP is low? If so, will this affect the Lateral scan?

Hologic recommends using LBMD software to compensate for a low AP scan. This does not affect the Lateral scan.

Comparison Questions

I received the error message "Scan modes must be identical" when doing a compare analysis on a follow-up scan. What does this mean?

When scanning a patient during a follow-up exam, always use the same scan mode as the baseline scan. For example, if you used the Fast Array mode for the baseline scan, use the Fast Array mode for all follow-up scans. Before scanning, determine which scan mode was used for the baseline scan by restoring the baseline image and viewing the scan identification located in the Scan Drawer.

If I have one or more follow-up scans, which scan should I compare to?

Always compare all follow-up scans to the initial baseline scan.

What if the follow-up scan does not match the original?

If the problem is due to poor patient positioning in the follow-up scan, reposition the patient and reacquire the scan. If the problem is with the baseline scan, match the ROIs as closely as possible using the compare feature and complete the analysis.

Why can't I get a rate of change for my comparisons?

This is most likely because you have entered two biographies for the same patient.

Can I use the Compare feature to compare a pencil beam scan to a fan beam scan?

No, you cannot use the Compare feature on scans acquired in dissimilar scan modes or on scans analyzed with a different analysis protocol. You can, however, obtain a Rate-of-Change estimate on scans acquired or analyzed using different modes. These estimates are generated when you select rate of change in the Report window. The list of previous scans for this patient will appear. You can then select the scans you want to include in the rate of change.

Forearm Questions

What should I do if someone does not fit properly on the forearm positioner?

It is very important to position the forearm as straight as possible. If a patient's forearm does not fit properly in the positioner, you may have to scan the forearm without the use of the forearm positioner. To do this, align the forearm with the straight edge of the table pad. For a left forearm, measure 5½" from the first row of carpal bones. This point becomes the starting point of the scan. For the right forearm, reverse the positioning for the left forearm and start at the first row of carpal bones.

What is the importance of measuring the length of the forearm?

The system uses the forearm measurement to determine the length of the distal portion of the forearm. It calculates this length to determine the height of the ROI.

When should I do a forearm scan?

Performing a forearm scan is site dependent. Some facilities may include the forearm as a baseline scan. Other sites may perform a forearm scan if the patient's weight exceeds the table limit (300 lbs.) or when a hip or spine exam cannot be performed.

Why is it important to leave air on the ulna side of the forearm?

The algorithm uses air to calculate the bone edge and therefore the analysis results.

What if the forearm is too wide to allow air on the ulna side?

If the forearm is too wide to allow air on the ulna side, then allow air on the radius side.

Hip Questions

Why is it important to have the femur straight and the leg internally rotated using the foot positioner?

When the femur is properly rotated, the correct sample of the femoral neck displays. The femur needs to be as straight as possible to maintain consistency in reproducing the scan.

If I properly rotate the femur 25º using the foot positioner, will the lesser trochanter be out of profile each time, from patient to patient?

Not necessarily. It depends on the patient's anatomy.

Why is it important to be consistent with the placement of the ROI?

Consistency is very important for all aspects of analysis and scanning. By placing the lines of the femoral neck box in a consistent fashion, the protocol of the analysis is consistent from patient to patient.

Why shouldn't I move the femoral midline?

Moving the femoral midline also changes the angle of the femoral neck box. This can interfere with the correct placement of the femoral neck.

If the femoral midline is not properly placed, what should I do and why would this happen?

Return to the "Insert and Delete Points" step and evaluate the yellow bone map. If bone was not filled in properly, then the femoral midline may have been placed incorrectly. Insert or delete bone as needed and analyze the scan.

Why can I delete bone from the hip, but not the spine?

The bone edges of the hip are more clearly defined and, therefore, they are easier to consistently reproduce on follow-up scans.

Why is it important to "anchor" one corner of the femoral neck box to the notch of the greater trochanter?

Anchoring is used for consistency. If the femoral neck box is anchored in the same fashion on each yearly visit, then the same sample of bone is reported each year. Also, if the corner is placed in the bone of the Greater Trochanter, then that bone is calculated into the femoral neck reading.

Why can't I change the width of the femoral neck box?

Shortening the short axis (width) of the femoral neck box affects the precision of results.

What is the significance of the base of the greater trochanter, and why shouldn't I move this?

It divides the trochanter/intertrochanteric region.

Can Ward's triangle be misplaced by the computer? If so, is there a way to check the placement?

It is possible to manually search for Ward's triangle.

Why do I need to etch along the edge of the femoral neck to the base of the femoral head when I am deleting bone from the hip? Why can't I just delete a piece of the Ischium?

Consistency is very important. This procedure helps you duplicate the same deletion for Follow-Up scans.

I scanned the Right hip using Left hip mode, or vice versa. What should I do?

Delete the incorrect scan. Re-scan the patient using the correct scan mode.

How should I adjust the femoral neck box when it does not fit in the space?

Although not usually necessary, you can adjust the box up and down along the midline. Anchor the outer upper edge of the box corner to the notch of the greater trochanter. The other three corners of the neck box should remain in soft tissue.

Instant Vertebral Assessment (IVA) Questions

Why are the images flat when printing to transparency film?

The transparency.lut look-up table in the \VPU\DeviceLUTs folder will provide higher contrast images than the standard linear look-up table. Rename the file default.lut to linear.lut and rename the file transparency.lut to default.lut. When the viewer application is restarted, the higher contrast table will be used for printing.

Can I delete DICOM files from the \VPU\DICOM Viewing folder?

When DICOM files are deleted from the folder, the corresponding database entries must also be removed. The best way to do this is by using the Delete Files capability in the Physician's Viewer.

DICOM files placed in the \VPU\DICOM Receiving folder disappear from that folder but do not show up on the Physician's Viewer Study List. Where are they?

Check the \VPU\Invalid Files folder. Files that are not DICOM compliant are moved to that folder.

What are the files in the \VPU\DICOM Invalid folder?

These are files, which appeared in the \VPU\DICOM Receiving folder and were either duplicates of files previously sent or non-compliant DICOM files.

Patient Questions

Why does a patient have to wait seven days from the date of a contrast medium exam before a DXA scan is performed?

You need to wait at least seven days to make sure that any contrast material has been excreted from the patient's body. If contrast material is still present in the patient's system during the scan, it can add density to the scan, which may produce erroneous results.

What is the maximum weight limit?

The maximum weight limit for the exam table is 300 lbs.

Can I scan a patient who has a pacemaker?

Yes.

Quality Control Questions

Why do I plot the BMD daily but not the BMC and Area?

Area and BMC calculate the BMD (g/cm²). If BMD results are acceptable, it is assumed that the Area and BMC are acceptable.

Why do the dots on the QC plot fluctuate from day to day?

L1-L4 as a precision of 1% or better. The values fluctuate an average of 1%.

Why would the CV (coefficient of variation) be out of range?

CV is elevated if one value is very high or very low (outside the upper or lower limits). The CV may be out of range if one or more scan values are outside of the limits. If so, call the Hologic Help Desk.

Why does the C-arm move and scan air before it actually scans the Spine Phantom?

This procedure checks the detectors in the C-arm to verify that they are working properly.

How can I tell if my QC is okay?

Any obvious drift or plot outside the limit lines should be reported to the Hologic Help Desk. Also, if the rate of change is greater than 2% and the error of the estimate is less than 2%, report the results to the Hologic Help Desk. For more information on QC, refer to Chapter 5 of the User's Guide.

Scan Questions

Where do I enter physician's comments?

Refer to Chapter 15 of the User's Guide, Reports, for information on editing and including physician's comments.

Can I lose scans in the database?

You can lose a scan if it is deleted without first being archived. You can also lose scans if your archive disk(s) are lost, damaged, or destroyed. This is why Hologic recommends maintaining secondary (backup) archive disks.

Can I view analysis results without reanalyzing the scan?

Yes. To do this, click on the Analyze button in the main window. Select the Analyzed Scans tab and select the scan. Click the Next>> button to proceed through the system to view the analysis results.

Why am I not getting Z-scores for my patient?

When reference data is not available for the patient's age, the system cannot calculate the Z-score. For example, hip and forearm data is not available for patients under 20 or over 85 years of age. For patient's under 20, Z-scores are only available for the L1-L4 regions on an AP lumbar scan.

Why am I not getting T-scores for my patient?

When the date of birth is not available for the patient, the system cannot calculate the T-score. If the patient's sex and ethnicity are not available, the system automatically defaults to the Caucasian female reference database.

What does "Motor at Limit" mean?

This message appears when the patient anatomy under study is beyond the active scan field and the C-arm encounters a mechanical stop. Reposition the patient so that the anatomy is within the active scan field and scan again.

Should I do a spine or hip scan on my patient?

Both scan types are useful. The spine may be better for detecting early post menopausal bone loss and for monitoring BMD changes due to therapy or disease. Hip measurements may be indicated in elderly subjects who are at risk for hip fracture or where degenerative changes in the spine may falsely elevate an AP spine BMD measurement. The optimal choice of scan sites depends on the individual clinical situation of the patient. Consult the literature for further information on this topic. For example: "Osteoporosis" Ed. By R. Marcus et al. Published Academic Press 1996; "Bone Densitometry and Osteoporosis" Ed. By H.K. Genant et al. Published by Springer-Verlag 1998; "The Evaluation of Osteoporosis, Second Edition: Dual Energy x-ray absorptionmetry in clinical practice" by H.W. Wahner and I. Fogelman, published by Martin Dunitz Ltd. 1994.

Spine Questions

What is the purpose of using the knee positioner for a Lumbar spine scan?

The lumbar spine has a natural curve. The knee positioner raises the legs in order to flatten the back. This helps to level each vertebral body of the Lumbar spine.

Why is it important to have the spine as straight as possible?

By having the spine centered and straight as possible, it will be easier to reproduce the scan during follow-up exams.

If a patient has scoliosis, should I position the patient with their natural curve, or should I try to straighten the spine?

If you notice that the spine is crooked, you should attempt to straighten the spine. If straightening the spine does not work, the crookedness may be due to the patient's anatomy. If this is the situation, align the patient on the table allowing the natural curve of the spine. This will allow reproducibility on follow-up scans.

Why is it important to maintain the width of the ROI?

All reference value scans are analyzed using a predefined ROI size. The ROI is set at this width because of the various types of soft tissue on each side of the spine.

Why should I delete a vertebral body if it is compressed?

If you do not delete compressed vertebral bodies, the system may produce erroneously high results.

Why can't I alter the bone map for a Lumbar spine?

It is not recommended that you fill in the bone edges. If a significant portion of bone is missing, you can use the LBMD software. If there is a hole in the bone map, try clicking the Fill Holes button. Refer to Chapter 8 of the User's Guide for more information. The accuracy of an operator inserting bone cannot be compared with the computer's accuracy. In most cases, the bone map fills with the same consistency on a Follow-Up scan.

If an artifact or piece of metal falls within the ROI, but does not overlay the spine, will it affect the results?

Artifacts or pieces of metal within the ROI may increase the soft tissue background and influence the Bone edge detection.

If the baseline scan is acquired and/or analyzed incorrectly, should I repeat the mistakes or should I do everything correctly and use the second visit as the baseline from then on?

Before performing a follow-up exam, view the patient's baseline scan. If it was analyzed incorrectly, you need to re-analyze the baseline. If the baseline has extremely poor positioning, correct the positioning during the follow-up exam and use the second scan as the new baseline.

When using the SBMD for the spine, why are the results reported in mg/cm²?

This is the standard unit of measure established for reporting results.

System Questions

Why do I need to use the Exit button on the main menu? What happens if I forget to use this and just shut off the computer?

When you click the Exit button on the main menu, the system performs a series of shutdown procedures. These procedures ensure that the system shuts down properly, and retains all the information from the day's activities. Turning the computer off without using the Exit button bypasses the shutdown procedures and may have adverse affects on the system. Be sure to always use the Exit button to shut the system down safely.

Why do I need to delete the scans from the computer?

When you perform an archive (copying scans from the computer's disk to another disk, such as a 3.5 inch or SuperDisk diskette), you no longer need to retain a copy on the computer's disk. Scans consume a large part of the space available on the computer's disk. Once archived, you delete the scans to make room for new scans. Hologic recommends backing up the system onto more than one disk. Doing this ensures that should something happen to one of the disks the archived scans still exist on another disk.

Why is it important to perform a system backup once a week?

Backing up the database on a weekly basis ensures that a copy of your data exists elsewhere in the event of a system crash or other unforeseen circumstances that may corrupt your data.

How do I find out if I am using NHANES data?

If your system had NHANES data installed, the system displays NHA 2/01/97 under the T- and Z-score box for white males and females.

What is the kV for the x-ray beam?

The kV is 140 for the high-energy x-ray beam, and 100 for the low x-ray beam. The system alternates between high- and low-energy synchronous with line frequency.

Whole Body Questions

Can I use any of the positioning devices for the whole body scan?

Hologic does not recommend using positioning devices when performing a whole body scan because they may interfere with results.

Can I use the Velcro strap to keep the feet together?

Velcro may interfere with the results. Hologic recommends using tape to keep the feet together.