MAYO CLINIC LABORATORIES

Test Definition: BHISI

Bone Histomorphometry, Consultant Interpretation, Slides Only

Overview

Useful For

Identifying undetermined metabolic bone disease in submitted slide specimens

Diagnosing renal osteodystrophy

Diagnosing osteomalacia

Diagnosing osteoporosis

Diagnosing Paget disease

Assessing the effects of therapy

Identifying disorders of the hematopoietic system

Diagnosing aluminum toxicity

Identifying the presence of iron in the bone

Special Instructions

- Bone Histomorphometry Specimen Preparation
- Bone Histomorphometry: Patient Information

Method Name

Medical Interpretation

NY State Available

No

Specimen

Specimen Type

Varies

Necessary Information

Bone Histomorphometry: Patient Information (T352) must be completed and sent with the specimen. The laboratory **requires** this information in order to perform testing.

Specimen Required

Specimen Type: Bone
Source: Anterior iliac crest
Slides: 2
Submission Container/Tube: Plastic slide holder
Specimen Volume: A minimum of 1 Goldner Trichrome-stained slide and 1 hematoxylin and eosin-stained slide are required. One tetracycline slide should be submitted as applicable.
Collection Information: For complete instructions see Bone Histomorphometry Specimen Preparation (T579).
Additional Information: Stained slides that were broken and repaired (ie, double mounted) at the client site will not be rejected, as, in most cases, they can still be reviewed under the microscope. However, due to the double mounting, digital scanning cannot be performed.

Forms

Bone Histomorphometry: Patient Information (T352) is required

Specimen Minimum Volume

See Specimen Required

Reject Due To

Bone	Reject
Decalcified bone	Reject
Broken or cracked stained slides that cannot be repaired	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Ambient		

Clinical & Interpretive

Clinical Information

Bone histomorphometry is a very sophisticated procedure utilizing full thickness bone biopsy.

Techniques such as 2-time interval labeling with tetracycline permit the direct measurement of the rate of bone formation. The information derived is useful in the diagnosis of metabolic bone diseases including renal osteodystrophy, osteomalacia, and osteoporosis. Other obtainable information relates to disorders such as aluminum toxicity and iron abnormalities.

Reference Values
An interpretive report will be provided.

Interpretation
Clinical endocrinologists trained in histomorphometric techniques review and interpret the histological appearance.

A pathologist interprets the bone marrow from a hematoxylin and eosin-stained slide.

No histomorphometric values are given.

Cautions
Mineralization or bone formation rates can be done only when tetracycline has been administered on a specific schedule prior to biopsy.

The biopsy site of preference is the iliac crest.

Attempts will be made to repair broken or cracked stained slides; however, if they are unable to be repaired (ie, shattered in transit), they will be rejected and discarded due to safety concerns.

Clinical Reference
1. Recker RR: Bone Histomorphometry: Techniques and Interpretation. CRC Press; 1983
2. Dempster DW, Compston JE, Drezner MK, et al. Standardized nomenclature, symbols, and units for bone histomorphometry: a 2012 update of the report of the ASBMR Histomorphometry Nomenclature Committee. J Bone Miner Res. 2013;28(1):2-17. doi:10.1002/jbmr.1805
3. Chavassieux P, Chapurlat R. Interest of bone histomorphometry in bone pathophysiology investigation: Foundation, present, and future. Front Endocrinol (Lausanne). 2022;13:907914. Published 2022 Jul 28. doi:10.3389/fendo.2022.907914

Performance

Method Description
The histologic appearance of all sections is reviewed and interpreted by a clinician-histomorphometrist. A hematoxylin and eosin-stained section is reviewed for abnormalities by a pathologist. Telephone consultations with responsible physicians are carried out whenever possible.(Hodgson SF, Johnson KA, Muhs JM, et al. Outpatient percutaneous biopsy of the iliac crest: methods, morbidity, and patient acceptance. Mayo Clin Proc. 1986;61:28-33)

PDF Report
No

Day(s) Performed
Monday through Friday

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Report Available
21 to 26 days

Specimen Retention Time
Slides will be returned 2 weeks after result released.

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

Test Classification
Not Applicable

CPT Code Information
88321

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
BHISI	Bone HistoMorph Interp Only	60570-9

Result ID	Test Result Name	Result LOINC® Value
71168	Interpretation	59465-5
71169	Bone Marrow Interpretation	51628-6
71170	Participated in the Interpretation	No LOINC Needed
71171	Report electronically signed by	19139-5
71172	Material Received	22633-2
71787	Case Number	80398-1
601909	Disclaimer	62364-5