Test Definition: HPCUT

Hematopathology Consultation, Client Embed

Overview

Useful For

Obtaining a rapid, expert opinion for diagnosis of hematologic and nonhematologic diseases using bone marrow biopsy specimens referred by the primary pathologist

Obtaining special studies that are not available locally

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
COSPC	Consult, Outside Slide	No, Bill Only	No
CSPPC	Consult, w/Slide Prep	No, Bill Only	No
CUPPC	Consult, w/USS Prof	No, Bill Only	No
CRHPC	Consult, w/Comp Rvw of His	No, Bill Only	No
SLSUR	Consult Slide Surcharge	No	No

Testing Algorithm

Laboratory approval is required prior to ordering this test. Contact Mayo Clinic Laboratories at 800-533-1710.

A Mayo Clinic hematopathologist will provide a full bone marrow workup that includes an evaluation of the specimen and determination of a diagnosis provided within a formal pathology report. Additionally, consultation cases with more than 25 client-stained slides received with the initial request will incur an additional surcharge. (This additional surcharge will not apply to client-stained slides sent in response to Mayo Clinic pathologist request.)

Ancillary Testing:
Based on Mayo Clinic-approved algorithms or at a staff hematopathologist's discretion, ancillary testing may be performed to assist in rendering an accurate diagnosis and provide important prognostic information. These test results (eg, cytochemical stains on bone marrow aspirate smear, immunohistochemical stains on bone marrow biopsy or clot sections, chromosome analysis, fluorescence in situ hybridization, flow cytometry, microarray, molecular and/or next-generation sequencing testing) will be reported and billed separately. While reported separately, these results will continue to be considered and referred to in the final pathology interpretation.

If ancillary testing (eg, flow cytometry) is desired by the client outside of this consultation, each test must be ordered separately. Tests ordered outside of the consultation may or may not be integrated into the final pathology report based on the staff hematopathologist's discretion.

If the volume of bone marrow aspirate is limited, prioritization of testing will be determined by the staff hematopathologist. Testing requested or suggested by the referring physician (immunostains, molecular studies, etc) may not be performed if deemed unnecessary by the reviewing staff hematopathologist.

Note: Calls are not routinely made; however, depending on the nature of the case, a call may be placed to the ordering

provider or pathologist. These situations include, but are not limited to, a new diagnosis of acute leukemia or aggressive high-grade lymphoma. To contact a Mayo Clinic hematopathologist, call the Hematopathology Communications team at 507-284-5600.

Embedding at the client site may delay specimen arrival at Mayo Clinic Laboratories and preclude the ability to perform some ancillary testing due to specimen stability.

For guidance in test selection, see Pathology Consultation Ordering Algorithm.
For more information see Multiple Myeloma: Laboratory Screening.

Special Instructions

- Multiple Myeloma: Laboratory Screening
- Hematopathology Patient Information
- Pathology Consultation Ordering Algorithm
- Bone Marrow Core Biopsy, Clot, and Aspirate Collection Guideline
- Assistance with Bone Marrow Collection

Highlights

Our consultative practice strives to provide the highest quality diagnostic consultative service, balancing optimal patient care with a cost-conscious approach that supports the rapid turnaround time for diagnostic results.

If a bone marrow pathology consultation is requested, the Mayo Clinic hematopathologists approach the diagnosis in the same way as Mayo Clinic's in-house cases.

Method Name

Medical Interpretation

NY State Available

Yes

Specimen

Specimen Type

Varies

Ordering Guidance

1. If requesting a peripheral blood smear evaluation only, order SPSMS / Morphology Evaluation (Special Smear), Blood.
2. If requesting a hematopathology consultation and only paraffin-embedded biopsy/clot samples (ie, no tubes of liquid bone marrow aspirate), order PATHC / Pathology Consultation. Also include a cover letter indicating hematopathology review requested.
3. If requesting a hematopathology consultation using biopsy or clot samples for embedding and processing at Mayo Clinic Laboratories (MCL) and tubes of liquid bone marrow aspirate, order HPWET / Hematopathology Consultation, MCL Embed. Orders for HPWET require MCL prior authorization and use of an MCL-provided kit (Bone Marrow Collection Kit, T793).

Shipping Instructions

Attach the green "Attention Pathology" address label (T498) to the outside of the transport container before putting into the courier mailer.

Necessary Information

All requisition and supporting information must be submitted in English.

Each of the following items are required:

1. All requisitions must be labeled with:

-Patient name, date of birth, medical record number, and either case number or pathology ID

-Name and phone number of the referring pathologist or ordering provider

-Collection date

2. Including a preliminary pathology report ensures appropriate identification and provides a gross description. Hematopathology Patient Information (T676) may be used to provide patient information; print and submit with the case.

3. A recent Hematology/Oncology clinical note; print and submit with the case

4. Complete blood cell count (CBC) results from testing performed within 14 days of bone marrow collection.

5. Indicate clinical reason/context

6. All pending and final reports for ancillary testing on submitted specimens.

All appropriate slides, biopsy tissue, and aspirate are required to make a diagnosis. The referring pathologist's and clinician's name and phone numbers are essential. Specific diagnosis may require correlation with clinical information; **these names and phone numbers must be sent with the specimen**.

Specimen Required

All specimens are required to perform testing.

Additional Information:

All specimens and paperwork must be labeled with:

-Two patient identifiers (patient name, date of birth, medical record number, case number, or pathology ID

-Specimen type

Information on collecting, packaging, and shipping specimens, is available:

-Bone Marrow Core Biopsy, Clot, and Aspirate Collection Guideline

-Assistance with Bone Marrow Collection

Specimen Type: Bone marrow aspirate

Slides: 5

Preferred: Freshly prepared slides made at the time of specimen collection

Acceptable: Slides made from EDTA bone marrow specimen, within 2 hours of collection

Submission Container/Tube: Plastic slide holder

Collection Instructions:

1. Prepare slides of bone marrow aspirate.
2. If bone marrow units are sparse, or absent or aspirate is a dry tap, make biopsy touch prep slides.
3. Air dry slides. **Do not place** on hot plate to dry.

4. Place Parafilm around the slide carriers holding unstained slides to prevent exposure to formalin fumes during transport. Place slides in a separate bag apart from any formalin-fixed clot or core biopsy specimens. If using slide carriers, make sure they have not been used to carry fixed slides previously.

Specimen Type: Bone marrow aspirate
Container/Tube: Lavender top (EDTA) and yellow top (ACD solution A or B)
Specimen Volume: 2 x 3 mL in EDTA and 2 x 6 mL in ACD solution A or B
Collection Instructions:
1. Aspirate per standard bone marrow collection procedure.
2. Send bone marrow specimens in original tubes. **Do not aliquot**.

Specimen Type: Bone marrow aspirate clot
Container/Tube: Bone marrow clot embedded in paraffin block
Collection Instructions: Process and embed clot in paraffin

Specimen Type: Bone marrow core biopsy
Container/Tube: Fixed biopsy core embedded in paraffin block
Collection Instructions: Process and embed core in paraffin.

Specimen Type: Blood
Slides: 2
Preferred: 2 Freshly prepared fingerstick slides
Acceptable: 2 Slides made from whole blood in EDTA, within 8 hours of collection
Submission Container/Tube: Plastic slide holder
Collection Instructions:
1. Prepare 2 smears of even thickness.
2. Place Parafilm around the slide carriers holding unstained slides to prevent exposure to formalin fumes during transport. Place slides in a separate bag apart from any formalin-fixed clot or core biopsy specimens. If using slide carriers, make sure they have not been used to carry fixed slides previously.

Forms

1. **Hematopathology Patient Information (T676) is required**.
2. If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Hematopathology/Cytogenetics Test Request (T726)
-Benign Hematology Test Request (T755)

Specimen Minimum Volume

See Specimen Required

Reject Due To

Broken or cracked unstained slides	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Ambient		

Clinical & Interpretive

Clinical Information

Diagnosis of a hematologic disease requires thorough and accurate morphologic examination of peripheral blood and bone marrow as well as interpretation of ancillary testing results (eg, cytochemistry, immunohistochemistry, flow-cytometric immunophenotyping, chromosome analysis, fluorescence in situ hybridization testing, and molecular genetics) by a highly qualified hematopathologist. With recent advent of new understanding and treatment options, more ancillary tests are available. Efficient utilization and accurate interpretation of these tests are crucial for patient care. These tests can assist in rendering an accurate diagnosis and could provide prognostic prediction and potential indication or guidance of therapy.

Reference Values

An interpretive report will be provided.

Interpretation

Results of the consultation are reported in a formal pathology report that includes a description of ancillary test results (if applicable) and an interpretive comment. When the case is completed, results may be communicated by a phone call.

Cautions

Broken or cracked unstained slides are not compatible with the instrumentation used in our performing laboratories and will be rejected. Additional material may be requested.

Clinical Reference

Sundaram S, Jizzini M, Lamonica D, et al. Utility of bone marrow aspirate and biopsy in staging of patients with T-cell lymphoma in the PET-Era - tissue remains the issue, Leuk Lymphoma. 2020;61(13):3226-3233. doi:10.1080/10428194.2020.1798950

Performance

Method Description

All requests will be processed as a consultation case. Ancillary testing will be performed as appropriate to be diagnostically indicated and at an additional charge.

PDF Report

No

Day(s) Performed

Monday through Saturday

Report Available

3 to 7 days; Cases requiring additional material or ancillary testing may require additional time.

Specimen Retention Time

Slides prepared at Mayo Clinic: Indefinitely. Bone marrow aspirate: 2 weeks

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 (if appropriate)
88323 (if appropriate)
88325 (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
HPCUT	Hematopathology Consult	78251-6

Result ID	Test Result Name	Result LOINC® Value
71744	Interpretation	60570-9
71745	Participated in Interprtation	No LOINC Needed
71746	Report electronically signed by	19139-5
71747	Addendum	35265-8
71748	Gross Description	22634-0
71749	Material Received	85298-8
71750	Disclaimer	62364-5
71833	Case Number	80398-1