

Overview

Useful For

[Obtaining a rapid, expert opinion for diagnosis of hematologic and non-hematologic diseases using bone marrow biopsy specimens referred by the primary pathologist](#)

Obtaining special studies that are not available locally

Highlights

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

It is the Division of Hematopathology's mission to provide the highest possible level of diagnostic consultative service, trying to balance optimal patient care with a cost-conscious approach to solving difficult diagnostic problems for all patients.

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

Testing Algorithm

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.

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: FISH, flow cytometry, microarray, molecular and/or next-generation sequencing (NGS) testing) will be reported and billed separately. While reported separately, these results will continue to be considered and referred to in the pathology final 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.

See [Pathology Consultation Ordering Algorithm](#) in Special Instructions.

Special Instructions

- [Hematopathology Patient Information](#)
- [Pathology Consultation Ordering Algorithm](#)
- [Bone Marrow Core Biopsy, Clot, and Aspirate Collection Guideline](#)
- [Assistance with Bone Marrow Collection](#)

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 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 at Mayo Clinic Laboratories and bone marrow aspirate, order HPWET / Hematopathology Consultation, MCL Embed.

Necessary Information

1. Collection date and patient date of birth are required.
2. The referring pathologist's and clinician's name and phone numbers are required.
3. All specimens must be labeled with specimen type.
4. All specimens, patient history, and requests should be clearly labeled with correct patient information, and case number.
5. Although a complete pathology report is not expected, **a brief history and patient information is required.** Use the [Hematopathology Patient Information](#) (T676) in Special Instructions.

Specimen Required

Information on collecting, packaging, and shipping specimens, is available in Special Instructions:

[-Bone Marrow Core Biopsy, Clot, and Aspirate Collection Guideline](#) Â

[-Assistance with Bone Marrow Collection](#) Â

Submit the following specimens:

Specimen Type: Bone marrow aspirate slides

Container/Tube: Transport in plastic slide holders

Preferred: Fresh prep slides made at the time of sample collection

Acceptable: Slides made from anticoagulated sample

Collection Instructions:

1. Prepare slides of bone marrow aspirate immediately after collection or prepare slides from bone marrow aspirate in EDTA within 2 hours of collection.
2. If bone marrow units are sparse or absent or aspirate is a dry tap, make biopsy touch prep slides.
3. [Make 2 good direct smears and 3 good unit preps, per unilateral collection.](#)
4. Air dry slides.
5. Send 5 slides unfixed/unstained.
6. Place Parafilm around the slide carriers holding unstained slides to prevent exposure to formalin fumes during transport and place slides in a separate bag apart from any formalin-fixed clot or core biopsy specimens during transport. If using slide carriers, make sure they have not been used to carry fixed slides previously.

Specimen Type: Bone marrow aspirate in anticoagulant for possible ancillary testing

Container/Tube: Lavender top (EDTA), green top (heparin), and yellow top (ACD)

Specimen Volume: 3 mL in EDTA, 3 mL in heparin, and 4 mL in ACD

Collection Instructions:

1. Aspirate per standard bone marrow collection procedure.
2. Send specimens in original tubes. Do not transfer to other tubes or containers.

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: Bone marrow aspirate clot

Container/Tube: Bone marrow clot embedded in paraffin block

Collection Instructions: Process and embed clot in paraffin

Specimen Type: Peripheral blood slides and CBC

Container/Tube: Transport in plastic slide holders.

Preferred: 2 Fresh prep fingerstick slide; include CBC values

Acceptable: 2 Slides made from whole blood in EDTA, made within 8 hours of collection

Collection Instructions:

1. Prepare 2 good quality smear of even thickness from fingerstick.
2. Alternatively, prepare good quality smear from EDTA whole blood within 8 hours of collection.
3. Submit unstained and unfixed slides.
4. Place Parafilm around the slide carriers holding unstained slides to prevent exposure to formalin fumes during transport and place slides in a separate bag apart from any formalin-fixed clot or core biopsy specimens during transport. If using slide carriers, make sure they have not been used to carry fixed slides previously.

Forms

1. [Hematopathology Patient Information \(T676\)](#) is required, see Special Instructions.
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 \(T755\)](#)

Reject Due To

No specimen should be rejected.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Ambient		

Clinical and Interpretive

Clinical Information

Diagnosis of a hematologic disease requires thorough and accurate morphologic examination of peripheral blood, bone marrow, and interpretation of ancillary testing results (eg, cytochemistry, immunohistochemistry, flow-cytometric immunophenotyping, chromosome analysis, FISH testing, and molecular genetics) by a highly qualified hematopathologist. With recent advent of new understanding and more treatment options, more ancillary tests are available. Efficient utilization and accurate interpretation of these tests are crucial in patient care. These tests can assist in rendering an accurate diagnosis and could also 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.

This consultative practice strives to bring the physician and patient the highest quality of diagnostic pathology, in all areas of expertise, aiming to utilize only those ancillary tests that support the diagnosis in a cost-effective manner, and to provide a rapid turnaround time for diagnostic results.

Cautions

All appropriate stained/unstained slides, biopsy tissue and aspirate are required in order 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; this information must be sent with the specimen.

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

Rochester

Fees and 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 Regional Manager. 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 Interpretation	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