Test Definition: RPCWT

Renal Pathology Consultation, Wet Tissue

Overview

Useful For

Evaluating and managing patients with kidney disease

Following the progression of known kidney disease or response to therapy

Determining the cause of dysfunction in the transplanted kidney (allograft)

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
EMR	EM, Renal Biopsy	No, (Bill Only)	No
IFPCA	IF Additional	No, (Bill Only)	No
IFPCI	IF Initial	No, (Bill Only)	No
LV4RP	Level 4 Gross and Microscopic, RB	No, (Bill Only)	No
SS2PC	SpecStain, Grp II, other	No, (Bill Only)	No

Testing Algorithm

The Renal Pathology Consultation is performed by a Mayo Clinic renal pathologist and entails the performance of appropriate procedures and stains based on the material received, patient information, and specific findings on the case in order to determine a diagnosis. Optimal/standard diagnostic interpretation of a medical kidney biopsy requires integration of the light microscopy, immunofluorescence, and electron microscopy findings together with the clinical and laboratory data for the patient. Published standards by the Renal Pathology Society are followed for the diagnostic evaluation and reporting of non-neoplastic kidney disease.(1)

Light Microscopy:
Wet/unprocessed tissue submitted for light microscopy routinely includes the preparation of stains, which include hematoxylin and eosin, periodic acid Schiff, Masson trichrome, and Jones methenamine silver stains.

Immunofluorescence:
Wet/unprocessed tissue submitted for immunofluorescence may include the following stains to render an accurate diagnosis. These stains include IgA, IgG, IgM, C1q, C3, albumin, fibrinogen, kappa light chain, and lambda light chain stains with C4d added if the biopsy is an allograft.

The IgG subtypes (IgG1, IgG2, IgG3, IgG4) are typically only utilized if the biopsy shows features suspicious for a monoclonal/monotypic deposition process involving IgG.

Alport (collagen IV, alpha 2 and alpha 5) staining is performed in the setting of biopsy findings that are consistent with hereditary nephritis/Alport syndrome.

Phospholipase A2 receptor staining is performed in the setting of membranous nephropathy/glomerulonephritis to aid

in determining whether it is most likely primary/idiopathic or secondary.

Paraffin-Based Immunofluorescence Stains:
The paraffin-based immunofluorescence stains listed above would only be utilized in the special circumstance when there is no tissue or inadequate tissue available for standard immunofluorescence or if there are findings that raise concern for so-called "masked deposits."

Electron Microscopy:
Wet/unprocessed tissue submitted for electron microscopy will be processed for transmission electron microscopy. A formal interpretive report is issued, incorporating the findings from all tests performed for diagnostic purposes.

For more information see Pathology Consultation Ordering Algorithm.

Special Instructions

- Renal Biopsy Patient Information
- Pathology Consultation Ordering Algorithm
- Renal Biopsy Preparation Instructions

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.

Method Name

Pathology Consultation

NY State Available

Yes

Specimen

Specimen Type

Kidney Biopsy

Ordering Guidance

This test is for a renal wet tissue consultation only. For a consultation on paraffin embedded renal tissue and slides, order PATHC / Pathology Consultation.

Shipping Instructions

1. Advise shipping specimens in Styrofoam transportation coolers to avoid extreme hot or cold temperatures and to ensure specimens are received at required specimen transport (stability) temperature.
2. 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.

The following information is required:
1. All requisitions must be labeled with:
-Patient name, date of birth, and medical record number
-Name and phone number of the referring nephrologist/pathologist or ordering provider
-Anatomic site and collection date

2. A brief patient history is essential to achieve a consultation fully relevant to the ordering provider's needs.

3. Additional information needed:
-Recent nephrology consultation notes
-History and physical progress notes
-Recent laboratory test results, including serologies (eg, renal/kidney function panel, antinuclear antibodies, anti-glomerular basement membrane antibodies, C3/C4, serum or urine protein electrophoresis, serum albumin, hepatitis/HIV screen, urinalysis)

Specimen Required

Specimen Type: Kidney biopsy
Supplies: Renal Biopsy Kit (T231)
Specimen Volume: Entire specimen
Collection Instructions: Collect and prepare biopsy specimens per instructions in Renal Biopsy Preparation Instructions.
Additional Information: On Saturdays and holidays, RUSH (same day as receipt) interpretation is available for clinically emergent cases (eg, acute kidney failure, rapidly progressive glomerulonephritis, acute kidney allograft dysfunction) but requires advanced notification and approval by a Mayo Clinic Renal Pathologist (507-284-5677).
To request RUSH service outside of regular business hours, contact Mayo Clinic Laboratories at 800-533-1710.

Digital Image Access

1. Information on accessing digital images for renal consult cases can be accessed through this website: https://news.mayocliniclabs.com/pathology/digital-imaging/
2. Clients ordering stains using a manual requisition form will not have access to digital images.

Forms

1. Renal Biopsy Patient Information
2. If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Kidney Transplant Test Request
-Renal Diagnostics Test Request (T830)

Specimen Minimum Volume

See Specimen Required

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Kidney Biopsy	Ambient (preferred)		
	Refrigerated		

Clinical & Interpretive

Clinical Information

The Mayo Renal Pathology service is staffed by board-certified pathologists who have a special interest in non-neoplastic diseases of the kidney.

Kidney biopsy has proven to be of value in the clinical evaluation and management of patients with kidney disease, including acute and chronic renal insufficiency, nephrotic syndrome, nephritic syndrome, proteinuria, and hematuria, and in the overall management of kidney transplant recipients.

Optimal interpretation of a kidney biopsy requires integration of clinical and laboratory results with light microscopic, immunofluorescent histology, and electron microscopy findings.

Reference Values

An interpretive report will be provided.

Interpretation

A verbal report is provided to nephrologists for Mayo Clinic Laboratories cases.

Digital images for electron microscopy and immunofluorescent stains may be downloaded as needed using the digital imaging link provided in the final report.

In most cases, electron microscopy results are reported as an addendum, and a final report including these findings is issued.

Cautions

Accurate and timely interpretation of a kidney biopsy requires integration of light microscopic, immunofluorescent histology, and electron microscopic findings with clinical and laboratory data. Failure to provide the relevant clinical history and laboratory results may result in a delay in the interpretation or the inability to adequately correlate the biopsy findings with the clinical picture.

Clinical Reference

1. Chang A, Gibson IW, Cohen AH, et al. A position paper on standardizing the nonneoplastic kidney biopsy report. Clin J Am Soc Nephrol. 2012;7:1365-1368

2. Jennette JC, D'Agati VD, Olson JL, Silva FG, eds. Heptinstall's Pathology of the Kidney. 7th ed. Lippincott Williams and Wilkins; 2014

Performance

Method Description
Gross and microscopic examination of tissue. Ancillary testing is ordered at the discretion of the Mayo Clinic pathologist. The results of all testing will be provided in the context of the final pathology report.(Unpublished Mayo method)

PDF Report
No

Day(s) Performed
Monday through Saturday

Report Available
2 to 10 days; Cases requiring additional material or ancillary testing may require additional time.

Specimen Retention Time
Dependent on sample type

Performing Laboratory Location
Mayo Clinical 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
88305 (If appropriate)
88348 (If appropriate)
88313 (If appropriate)
88346 (If appropriate)
88350 (If appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
RPCWT	Renal Pathology	65757-7

Result ID	Test Result Name	Result LOINC® Value
71219	Interpretation	60570-9
71220	Participated in the Interpretation	No LOINC Needed
71221	Report electronically signed by	19139-5

71222	Addendum	35265-8
71223	Gross Description	22634-0
71224	Material Received	85298-8
71615	Disclaimer	62364-5
71846	Case Number	80398-1