

# Lab Guide - 2019

## Histopathology Section Lab Guide

# HISTOPATHOLOGY

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## Introduction

The Histopathology section of Al Khor Hospital Laboratory Hamad Medical Corporation provides histopathologic services for people in the state of Qatar especially northern part of the country.

All types of specimens are processed. Specimens received by the histopathology laboratory require tissue preparation then are treated and analysed using techniques appropriate to the type of tissue and the investigation required. For immediate diagnosis during a surgical procedure a frozen section is performed.

The Histopathology laboratory has a team of 10 highly qualified and motivated staff including Sr. Consultant Pathologist, Specialist Pathologists, Chief Technologist, Sr. Technologist, Technologists and Medical Transcriptionist.

The Histopathology laboratory is located in the main laboratory, telephone number 44745194/ 5059. All surgical specimens removed from the patients during their admission to any HMC Hospital and clinics should be submitted to Histopathology for gross and/or microscopic examination.

## **Contacts**

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Head of AKH Laboratory	Dr. Sara Adel Salim Office Tel No. 44745183 Mobile No. 55134368
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<b><u>Contact Information:</u></b>	
Histopathology Room 1	44745194
Histopathology Room 2	44745059
Laboratory Specimen Control (After working hours)	44745195 / 44745097

## **SERVICES OFFERED:**

1. Routine gross and microscopic diagnosis
2. Frozen section diagnosis

## **Special Stains Available:**

Alcian Blue/PAS	Grocott Methenamine Silver
Congo red	Masson Trichrome
Elastic Van Gieson	PAS with diastase (PAS-D)
Fite's stain	Periodic Acid-Schiff (PAS)
Fontana Masson	Prussian Blue
Gomori Reticulin	Ziehl Neelsen (ZN)

## **Other special stains and Immunohistochemistry stains**

Other special stains not stated above and all Immunohistochemistry stains are sent to HGH Histopathology laboratory.

## **Frozen Section**

1. The pathologist should be notified by the requesting physician at least 24 hours prior to the procedure.
2. Instructions to the pathologist should be clear. The pathologist reviews the request, and decides whether a frozen section should be performed. In most instances, the pathologist complies with the request of the surgeon.
3. A pathology tissue request is electronically requested prior to the delivery of the tissue to histopathology laboratory.
4. Fresh tissue for frozen section shall be sent directly to the histopathology laboratory and not to the laboratory specimen control.
5. If frozen sections are cancelled, the Histopathology laboratory should be notified at once. It is important to inform the lab so that routine functions can continue uninterrupted.

## **Indications for Frozen Section**

1. The frozen section is an expensive labor intensive examination of tissue and should be used only when the results will alter the immediate treatment of the patient.
2. Appropriate use of the frozen section includes diagnosing malignant tumor prior to major excision, evaluating margins of resection of malignant tumors during excision, and determining if the tissue removed by biopsy will be sufficient to establish a diagnosis on permanent sections.

## **PATHOLOGY TISSUE REQUEST**

The Histopathology service provides complete gross and microscopic examinations of all specimens and tissue submitted by the physicians of any HMC Hospitals and clinics. The Histopathology service complies with the accreditation rules and regulations of the JCI and CAP. Therefore, all specimens must be submitted with electronically completed requisition form.

The necessary informations are mandatory in requesting an electronic pathology tissue request.

1. Patient's complete name
2. HC number
3. Date of birth
4. Patient location/ unit
5. Type and source of tissue
6. Date and time of specimen collection
7. Clinical diagnosis and pertinent clinical history
8. LMP for gynecological specimens e.g. endometrial samples (noted in the comment box)
9. Electronically requested by requesting physician

## **LABORATORY HOURS:**

07:00-15:00 Sunday to Thursday

24 hours 7 days a week on call for frozen section

## **SPECIAL INSTRUCTIONS:**

1. All tissue submitted to histopathology must be placed in containers containing 10% buffered formalin.

2. The amount of formalin should be 15 to 20 times the volume of the specimen.
3. Tissue removed during holidays and weekends should be put in 10% neutral buffered formalin and delivered to the laboratory specimen control.
4. Bone marrow should be fixed in acetic acid zinc formalin, while the clot is fixed with 10% neutral buffered formalin.
5. 10% neutral buffered formalin and acetic acid zinc formalin can be obtained from the laboratory specimen control 24 hours a day, 7 days a week.

**Specimens submitted can be rejected due to the following reasons:**

1	Contaminated container	16	Incorrect specimen
2	Delayed Specimen transport	17	Leaking container
3	Broken blocks (for second opinion)	18	Lost specimen
4	Broken slides (for second opinion)	19	No Doctor stamp/ signature
5	Missing blocks (for second opinion)	20	No specimen received
6	Missing report (for second opinion)	21	Request identification mismatch data
7	Missing slides (for second opinion)	22	Requisition contaminated
8	Unlabeled blocks (for second opinion)	23	Requisition not received
9	Unlabeled slides (for second opinion)	24	Specimen identification mismatch data
10	Wrong report (for second opinion- mismatch with the other documents submitted)	25	Specimen not visible in the container
11	Inappropriate container	26	Specimen site unknown
12	Inappropriate fixative	27	Specimen/ request mismatch
13	Incomplete requisition	28	Unlabeled specimen
14	Incorrect label	29	Wrong container
15	Incorrect requisition	30	Wrong site

**Cytopathology specimens:**

1. All specimens submitted for cytological study are sent to HGH Cytopathology laboratory.

**Fine Needle Aspiration:**

1. The Histopathology laboratory should be notified prior to collection.

#### **Kidney biopsy:**

1. The Histopathology laboratory will be notified 24 hours prior to collection by the requesting doctor/ nurse.
2. Kidney biopsy should be collected until 12 noon only as this tissue is sent immediately to HGH Histopathology for processing.
3. Specimens for kidney biopsy should be in saline.

#### **Specimens for immunofluorescence:**

1. Specimens like skin and renal biopsy should be in saline.

#### **Lymph node for flowcytometry:**

1. Notify the laboratory prior to collection.
2. Lymph node for flowcytometry should be in RPMI (available in the lab).
3. Sample should be refrigerated.

### **HISTOPATHOLOGY REPORTS:**

Histopathology reports will usually take one to ten days from the day of receipt in the laboratory.

#### **Turnaround Time in Histopathology:**

1. Stat specimens including small biopsies :  $\leq 3$  days
2. Frozen section: 20 minutes/ block
3. Uncomplicated cases which do not require further work-up:
  - 3.1 Medium or routine specimen: 3-5 working days
  - 3.2 Large complex specimens: 5 working days
  - 3.3 3.3. Bone: 5-10 working days
4. The specimens that require prolonged fixation, extra sections, extra decalcifications, second opinion (outside consultation) may have an extended turnaround time.

**AL KHOR HOSPITAL HISTOPATHOLOGY SECTION**  
**LIST OF SPECIMENS PROCESSED IN HISTOPATHOLOGY LABORATORY**

S/N	TYPE OF SPECIMEN	EXAMPLE	FIXATIVE	STAINS	PRIORITY	TAT	SPECIAL REQUIREMENT
1	Bone	Femur Ribs Others	10% NBF	H&E	Routine	5-10 working days	_____
2	Bone marrow	Biopsy and clot	Biopsy- AZF Clot -10% NBF	H&E; sometimes require special and immuno stains	Routine	5 working days	Reported in hematology section
3	Fetus	All fetus <20 weeks gestation	10% NBF	_____	_____	_____	No Microscopy. Just described as gross specimen: >20 weeks of gestational age will require an autopsy consent which will be done in Hamad General Hospital
4	Endoscopic biopsies	Sigmoid Colonic Oesophagus Gastric Rectal Duodenum	10% NBF	H&E requiring PAS and AB/PAS	Stat	≤ 3 working days	Sometime it requires immuno stains or more special stains
5	Lymph node	Cervical Supraclavicular Axillary Inguinal Others	10% NBF	H&E It may require special and immuno stains	Routine	3-5 working days	_____



**LIST OF SPECIMENS PROCESSED IN HISTOPATHOLOGY LABORATORY**

S/N	TYPE OF SPECIMEN	EXAMPLE	FIXATIVE	STAINS	PRIORITY	TAT	SPECIAL REQUIREMENT
6	Placenta		10% NBF	H&E	Routine	3-5 working days	Need extra day for fixation Weight required
7	Skin biopsies	Punch Others	10% NBF	H&E	Routine	3-5 working days	Special stain like ZN/ Fites or/and immunostains required in some cases.
8	Testis		Bouins solution 10% NBF	H&E	Routine	3-5 working days	
9	Frozen section	Breast Lymph node Thyroid Others	Fresh tissue	Rapid H&E	Stat	20 min/block	Phone initial preliminary report
10	Others	Medium specimen Large specimen Appendix Thyroid Gallbladder Breast Uterus POC Others	10% NBF	H&E	Routine	3-5 working days	Large specimen requires extra days for fixation, extra blocks, and some need special stains, immuno stains, it depend on the specimen and case.

NBF- Neutral Buffered Formalin

AZF- Acetic acid Zinc Formalin (available in hematology lab)

H&E - Hematoxylin and Eosin