Clinical Pathology Residency Policy and Procedure Manual
Rotation and Lecture Schedule, continued

Immunology and Serology Laboratory

GENERAL COMPETENCIES:

Clinical Pathology Residents General Competencies For The Section of Immunology

DEFINITION: The ***trainer*** is defined as someone who has been specifically selected to perform the training. The trainer In the section of immunology is the Medical Director with the help of the Administrative, Technical Specialist or Senior Technologist (Med Tech II).

1. The trainer will ensure that the *general competencies* (as defined below) are covered and evaluated during the training period when applicable:

   a. Patient Care: Working under the direction of the pathologist, the resident will be involved in the interpretation of tests, quality control and process improvement to ensure the provision of patient-focused care. This includes: gathering essential and accurate clinical information when a testing pattern is in question. The resident will utilize medical knowledge with the help of information technology to make informed decisions regarding outcomes, including recommendation for appropriate test follow-up in these cases.

The resident will interact with other health care professionals to provide compassionate, appropriate & effective patient care for each situation.

   b. Medical Knowledge: The resident will be given a working background on critical steps of tasks assigned & be made aware of established procedures. Residents will be expected to demonstrate an investigatory approach and apply analytical thinking to the cases assigned to him.

   c. Practice-Based Learning & Improvement: The resident will learn a systematic approach to the investigation & evaluation of clinically relevant testing and how to make appropriate decisions resulting in improved patient care. This means integrating individual clinical expertise with the best available external clinical evidence from systematic research.

   d. Interpersonal & Communication Skills: The resident will learn how to be effective when exchanging information with other health care professionals.

   e. Professionalism: The resident will be expected to show a commitment to ethical principles when carrying out professional responsibilities. He/she will exhibit behavior appropriate to activities of the immunology section. The resident will commit to protect patient confidentiality. The following dimensions will be evaluated.

      Respectfulness,
      Altruism,
      Ethically sound practice,
      Conscientiousness,
      Reliability,
      Punctuality,
      Responsibility,

Consistency

f. **Systems-Based Practice:** The resident will be aware of and responsive to the larger context and system of health care as it relates to the cases assigned to him.

Understanding the interaction of their practice with the larger system, Knowledge of practice and delivery system, Practice cost effective care, Advocates for the patient within the health system

GOALS FOR THE IMMUNOLOGY ROTATION:

To learn the techniques of specimen collection and preparation for ELISA, latex agglutination, rate nephelometry and high performance liquid chromatography.

To learn the steps necessary to achieve adequate data correlation from clinical pathology assessments of immunologic diseases.

To obtain an in depth knowledge of the basic sciences and applied clinical sciences related to immunology/serology in the context of the testing performed in the section

To progressively achieve exposure to management issues and policy of the section.

DUTIES AND RESPONSIBILITIES OF THE RESIDENT:

Residents are assigned to Immunology for clinical interpretive services. These include but are not limited to clinical events, electrophoresis reports, flow cytometry reports and/or any unusual or unexpected finding as outlined in the Immunology procedure manuals. The resident must respond in a prompt manner. This exposure will provide the direct clinical involvement with the patient that is required and aid the resident in the development of skills necessary for proficiency in proper patient management and problem solving ability.

The resident will actively practice the General competencies as described above.

The resident will make available to the section a beeper number and will be called as needed. The Medical Director must be notified of any coverage issues from the assigned schedule so that proper coverage is assured.

The resident must participate in one research activity during each year. This activity can relate to method evaluation, basic research, or other task delegated and/or as approved by the Medical Director.

Assessments will be a part of the overall evaluation of the resident and must be completed by the end of the rotation.

Each resident must participate in the management and direction of the laboratory to include: inspections, safety, quality improvement, and data processing.

Each resident must participate in the teaching activity as part as the Medical Technology program. The number and frequency of the lectures to be determined at the discretion of the Clinical Pathology Resident Coordinator.

The rotation through the section is a 12-week schedule (see following pages: Immunology Laboratory Rotation Schedule).

Knowledge base:

Immunology is a relative young branch of medical science. For many years immunology was studied as part of microbiology. The explosive increase in fundamental information has made immunology an independent branch of

science. The challenge to the resident is to be able to increase his individual clinical expertise through the interaction with the workings of the section and at the same time gain an in depth knowledge of the science of immunology.

The following is a list of topics that the resident must understand in order to meet this challenge

I- General concepts in protein measurements

a. Standard curve
b. Linearity
c. Chromatography
d. Spectrophotometry
e. HPLC

II- Immunoassays and related techniques

a. Nature of antigen antibody reactions
b. Radial immunodiffusion
c. Nephelometry
d. Fluorecent antibody detection
e. ELISA
f. Flow cytometry

III- Humoral and cellular immunology

a. Lymphocytes subsets
b. Antigens
c. Immunoglobulin structure and genetics
d. CD markers
e. Cytokines
f. Histocompatability complex
g. Hypersensitivity reaction

IV- Application to microbiology

a. Bacterial

1-Lyme testing
2- H. pylori

b. Viral testing

1- measles

2- CMV

3- Rubella

4- Hepatitis virus testing

5- HIV

6- Varicella

7- EBV testing

V- Immunodeficiency and autoimmunity:

a- Antibody deficiencies

c- T cell mediated deficiencies

d- Combined deficiencies

e- Phagocytic deficiencies

f- Complement deficiencies

g- Secondary immune deficiencies

h- Autoimmune mechanism

i- SLE

j- Rheumatoid arthritis

k- Mixed connective tissue disorders

l- Scleroderma

m- Sjogren's syndrome

n- Polymyositis

o- Autoimmune vasculitis

p- Wegener's granulomatosis

q- ANCA

r- Ankylosing spondilitis

s- Hashimoto's disease

t- Grave's disease

u- Diabetes

v- Primary biliary cirrhosis

w- Chronic active hepatitis

x- Addison's disease

y- Myasthenia gravis

z- Multiple Sclerosis.

VI- Classification of leukemia and Lymphoma

MODE OF ASSESSMENTS**:**

The residents will be evaluated in the following manner:

1- A written pre test at the beginning of the rotation which consists of 70 general immunology questions.

2- A written end of rotation test which consists of 70 general immunology questions.

3- An interim oral exam based in actual immunology patient related topics.

4- Every time a clinical consultation form is filled.

5- Team work questionnaire at the end of the rotation

6- Review of quality control checklist

7- Review of residents portfolio in immunology, including relevant checklists.

8- Evaluation with the general department 360 evaluation form.

The clinical consultation forms is to be used during the rotation of the resident through the section of immunology, when ever an unusual testing result is encountered. The aim of the exercise is to train the resident in understanding the result within the context of the patients clinical presentation and in the provision of meaningful clinical consultations

Sample clinical consultation form

DANBURY HOSPITAL
DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE

DIVISION OF CLINICAL PATHOLOGY

CLINICAL PATHOLOGY CONSULTATION FORM
FOR REVIEW OF UNUSUAL TEST RESULTS.

*Date/Time of Event:*_____*Accn #:*_____

*Patient Name:*_____*Med Rec #:*_____

*Location:*_____*Diagnosis:*_____*STAT:* ☐

*Description of Clinical Event:*_____
_____
_____

Question to be answered:

*Reported by:*_____

Resident Review (To include patient/family history, chart review and pertinent Laboratory data):_____
_____
_____
_____
_____
_____

_____
_____
_____

(OVER)

Conclusion/Action to be taken:_____

-

_____

-

_____

-

_____

-

_____

-

_____

-

Resident Signature:_____Date:_____

-

-

-

Reviewed with Attending:

Additional Comments:_____
_____

_____

Resident performance

Please indicate resident performance as (Beginner, progressing, appropriate action taken)

Did the resident complete the review in a timely manner?

Was the resident punctual in meeting deadline for this case review?

Was the resident well prepared when presenting the case?

What was the level of clinical problem solving abilities that the resident demonstrated?

Did the resident gathered all appropriate information

Was a literature search performed?

Attending Signature:_____Date:_____

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Case Presented by:_____Date:_____

The aim of the team work questionnaire is to allow the evaluation of the resident's interaction with the staff of the immunology section

TEAMWORK QUESTIONNAIRE

Please rate as beginner, progressing, competent.

Does the resident establishe a rapport with the team members?

Does the resident take initiative and involves him/herself in section activities?

Does the resident follow up with requests in a timely/effective manner?

When testing is performed does the resident review critical or unexpected results and follow-up with appropriate team member?

Does the resident expresse his or her opinion easily?

Does the resident demonstrate responsibility .

Comments:

Reviewed by section director

Signature Date:

Reviewed with resident

Signature Date:

The aim of this checklist is to ensure adequate involvement of the resident in the quality assurance program in immunology.

Quality control check list

Resident must initial that a review was performed.

Test	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
ASO											
CRP											
COLD AGGLUT											
CSF CRYPTO											
HPS											
MONO											
RF											
RPR											
RUBALEX											
STREPTOZYME											
CSF CRYPTO											

IgG, IgM, EA, NA											
HBSAG											
HBSAB,											
HAV, HAV-IGM,											
HB CORE AB,											
HB CORE IGM,											
HEP C AB,											
CONFIRMATORY AG											
LYME											
RUB IGG											
VARICELLA											
CMV IGG											
HPY IGG											
ACL											
MUMPS											
ANA											
TOXO											
IGG,											
IGA,											
IGM											
CSF IGG											
PREALB											
KAPPA - URINE AND SERUM											
LAMBDA - URINE AND SERUM											
IFE											
LYME WB											
HIV SUD											
HGBA1C											
HGB ELECT											

MEASLES											
MICROALBUMIN											
TOT COMP											
C3											
C4											

Activity	Resident section coordinator initials
Review of daily test quality control	
Review of monthly quality control logs	
Review of critical results	
Review of unexpected results	
Performed of CAP check list inspection	

Reviewed by section director

Signature Date