# AUTOPSY PROCEDURE MANUAL

Division of Anatomic Pathology

Department of Pathology

The Miriam Hospital and Rhode Island Hospital

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1. Autopsy Pathology Staff

Shamlal Mangray, M.D. - Director of Autopsy Services
E. Stopa, M.D. - Director of Neuropathology
J. Donahue, M.D. - Neuropathologist
S. DelaMonte, M.D. - Neuropathologist
Robin Poudrier - Lead Pathologist’s Assistant
Aristotle Harley - Diener
Jeff Hart - Diener
Alvaro Tudela - Pathologist’s Assistant
Rony Lopez - Surgical Pathology Assistant
2. **General Considerations**

   a. **Benefits of the Autopsy**

      Although autopsy rates have declined precipitously over the past 60 years, it is clear that the autopsy continues to play a pivotal role for the integration of medical knowledge and as a barometer of the patient safety initiative. The major benefits of the autopsy can be summarized as follows:

      - Establishment of final diagnoses and determination of the cause of death. In particular, the autopsy provides the opportunity for clinicians to correlate physical, radiological and laboratory findings with the pathological manifestations of diseases. Additionally, the autopsy provides a unique window on the assessment of new therapeutic and diagnostic modalities.
      - Autopsies also have the potential of reducing hospital and physician malpractice risks. One study has demonstrated that autopsies; 1) eliminate suspicion; 2) provide reassurance to families; 3) substitute facts for conjecture; 4) construct a better defense; 5) reduce the number of claims; 6) improve the quality of care.
      - Provide benefits to the family of the deceased. The autopsy can establish the presence of hereditary and infectious disease, thereby providing the rationale for genetic counseling and prophylactic/therapeutic care for relatives. Additionally, the autopsy can provide data for insurance benefits and worker’s compensation.
      - Public health. Detection of contagious diseases, identification of environmental hazards and provision of accurate vital statistics are major contributions of the autopsy. With the decline of the autopsy, there are serious discrepancies with respect to the underlying causes of death as recorded on death certificates when determined clinically as compared to autopsies, with major error rates approaching 30%.
      - Medical education. The autopsy aids in the education of students in medicine and related disciplines, residents and fellows by providing teaching materials for clinical and pathological correlations. Additionally, the autopsy provides an opportunity for pathology residents to augment their knowledge of normal and abnormal anatomy and histology.
      - Clinical and basic research. The autopsy is a critical tool in recognizing changing patterns of disease, particularly as modified by novel therapeutic strategies. In addition, the autopsy can provide researchers with tissues for basic biochemical and molecular studies (eg. Brain bank for studies of neurodegenerative diseases).
      - Law enforcement and jurisprudence. The medicolegal investigation of death is a major component of the crime investigation with a particular focus on establishing the cause, time and manner of death.


   b. **Mission Statement**

      To provide a comprehensive anatomic pathology consultation service in an environment of education and scholarly achievement.

      The autopsy is an important tool of quality assurance for Surgical Pathology, Cytopathology, and the Medical Staff of Rhode Island and The Miriam Hospital. The autopsy
provides in some cases, the only opportunity to discover the cause of enigmatic clinical findings. The autopsy should be performed diligently and thoroughly and completed within a reasonable period of time, so that its value is not lost.

c. Requests for Autopsies

According to the bylaws of the Rhode Island Hospital and The Miriam Hospital, requests for autopsies should be sought on every death. Since this may not be feasible, the College of American Pathologists (CAP) recommends specific requests for each of the following categories:

1. When the cause of death or major diagnosis are unknown on clinical grounds.
2. When there may be unknown or unanticipated complications.
3. When there is concern by the family concerning cause of death.
4. When death occurs during or following any dental, medical or surgical diagnostic or therapeutic procedures.
5. When deaths occur in patients on clinical trials.
6. When deaths are unexpected or unexplained and are not subject to the forensic medical jurisdiction.
7. When natural deaths (which are subject to, but waived by) a forensic medical jurisdiction.
   This category includes deaths on arrival in hospitals, deaths in hospitals occurring within 24 hours of admission, deaths in which patients sustained injuries during hospitalization.
8. Deaths resulting from high risk infectious diseases.
10. Deaths in which autopsy could disclose a known or suspected illness which may have an effect on survivors or recipients of transplanted organs.
11. Deaths known or suspected to be related to environmental or occupational hazards.

d. Business Hours and Scope of Service

Autopsies are begun routinely during the week and on Saturdays between 8:30 a.m. and 3:00 p.m., except in extraordinary situations when, with the approval of the senior pathologist, they may be done at other times.

In addition to providing autopsy services for the Rhode Island Hospital and The Miriam Hospital, the department provides autopsy services for the following institutions:
- Newport Hospital
- St. Joseph’s Hospital/Fatima Unit
- Kent County Hospital
- Eleanor Slater Hospital
- Women and Infants Hospital R.I.

Autopsies will be performed only on patients who have been treated at Lifespan affiliated hospitals, with the exception of those located above, with whom we have formal agreements.

If a family member calls regarding an autopsy on a patient treated at facilities other than those listed above, the CAP does have a “Fee-for-Service Autopsy List” (see Appendix) which may be able to provide the requested service.

e. Autopsy Completion Time

The Division adheres to the guidelines recommended by the Joint Commission on Accreditation of Healthcare Organizations and the College of American Pathologists for completion of the autopsy:

1. Preliminary Anatomic Diagnosis (PAD) - within 48 hours
2. Final Anatomic Diagnosis (FAD) - within 30 days

f. Reviews Completed Prior to the Autopsy

The staff pathologist and the resident are responsible for completing the following reviews before the case is accessioned and the autopsy is started.
(1) Review of the Autopsy Permit (Authorization to perform postmortem examination) to be certain that it is signed and witnessed in compliance with the statutes of the State of Rhode Island and the guidelines of The Rhode Island and The Miriam Hospital (see Appendix).

(2) Prior to the start of each autopsy, the “Authorization to Perform Post-Mortem Examination” form should be reviewed carefully.
   a) The name of the decedent listed on the form should match the identification on the body.
   b) Exclusions (restrictions) should be noted and should be adhered to strictly. If there are any questions regarding the restrictions listed on the form, the physician who requested the permission should be consulted for clarification. The staff pathologist may limit the extent of the autopsy depending upon the nature and clinical circumstances of the case.
   c) The signature (and relationships) of the next-of-kin must be included. Authorization for the performance of a post-mortem examination should be obtained from the next-of-kin. The order of priority for next-of-kin is as follows:
      1. Surviving spouse
      2. Children of deceased (21 or older)
      3. Parent
      4. Siblings
      5. Grandparents
      6. Guardian at time of death

   If there are questions regarding the appropriateness of the authorizing signature, the Director of the Autopsy Service, the Admitting Office and/or Risk Management should be consulted for clarification.

   d. The form must also include the name of the attending physician and the names, signature and telephone number (or pager) of the physician who obtained permission for the autopsy.
   e. If permission for autopsy is granted by telephone, the name and signature of a witness must be included on the form.
   f. If there are questions regarding whether the case has been reported to the office of the Medical Examiner, consult the physician who obtained the request.

(3) The following types of death must be reported to the Office of the Medical Examiner (401-222-2948). The Chief Medical Examiner in RI is Christina Stanley, M.D.
   a. Death of a person less than 18 years of age.
   b. Death due to (or there is a suspicion of) accident, homicide, suicide, trauma.
   c. Death due to a hip fracture or other type of trauma in the elderly; or death is due to another cause, but admission was due to hip fracture or other trauma in the elderly.
   d. Death is sudden in a public place.
   e. Death is from a drug or toxic substance, including ethyl alcohol containing beverages.
   f. Death is sudden and the patient has not been attended by a physician.
   g. Death is from an infection capable of causing an epidemic.
   h. Death is related to job, workplace or environment.
   i. Death occurs within 24 hours of hospitalization of ED care.
   j. Death occurs during or immediately after surgery, diagnostic/therapeutic procedure, blood transfusion, or organ donation.
   k. Maternal deaths where there is a suspicion of abortion or within 6 weeks of delivery.
   l. Death where the attending physician has no adequate or reasonable explanation of the cause.
   m. All DOAs

(4) Review of whether or not the Autopsy Permit has set any limitations to the extent of the autopsy. The staff pathologist may limit the extent of the autopsy depending upon the nature and clinical circumstances of the case.
(5) Review the medical record of the case.

(6) Consult with the physician who signed the Autopsy Permit (the Chief Resident in the Dept. of Medicine cases should be paged initially) or the attending physician regarding the specific clinical concerns in the case.

(7) Indicate to the clinicians in the initial conversations when they might receive preliminary diagnoses of the gross examination and when they might review the anatomical findings of the case.

g. **Personnel Permitted at Autopsy**

The prosector or the Director is responsible for deciding who can be present during the autopsy. Only qualified medical professionals or trainees are permitted to be in the Autopsy Suite to observe an autopsy, and they must comply fully with the rules under Infection Control (see below).

h. **Staff Pathologist Review Prior to the Issuance of the Preliminary Anatomic Diagnosis**

When the autopsy is being performed by a pathology resident or pathologist's assistant, he/she should consult with the attending pathologist prior to the start of the case. The clinical and pathologic findings should be reviewed with the staff pathologist after the dissection is completed, either on the day of the autopsy or on the first workday following the autopsy.

i. **Preliminary Anatomic Diagnosis**

The staff pathologist is responsible for issuing the Preliminary Anatomic Diagnosis within 24 but no longer than 48 hours after the gross examination is completed. Other elements of the protocol, tissue block submission, brain cutting and tissue block submission, microscopic slides review, and writing of the Final Note should be completed within the time guidelines outlined below. All elements of the protocol are issued together as a single report in support of the Final Anatomic Diagnosis.

j. **Time Guidelines for Completion of the Autopsy.**

(1) <= 48 hours - Preliminary Anatomic Diagnosis
(2) <= 7 days - Clinical Summary - Tissue Blocks Submitted
(3) <= 2 weeks - Brain Cutting - Brain Tissue Blocks Submitted
(4) <= 4 weeks - Review Case and Microscopic Slides
(5) <= 30 days - Routine cases - Microscopic Description - Final Note – Final Anatomic Diagnosis
(6) <= 60 days - Complex cases - Microscopic Description - Final Note – Final Anatomic Diagnosis

k. **Retention of Autopsy Pathology Records and Materials**

(1) Accession log records - 5 years
(2) Wet tissue (stock bottle) – 3 months after final report
(3) Paraffin blocks – indefinitely (policy changed from 10 years – 10/16/03)
(4) Glass slides and reports – indefinitely (policy changed from 20 years – 10/16/03)

l. **Duties and Responsibilities of Residents**

(1) **General Responsibilities**

Residents in Anatomic Pathology at The Rhode Island and The Miriam Hospital may be assigned responsibilities in Surgical Pathology, Cytopathology, and/or Autopsy Pathology during their rotation in Anatomic Pathology. Residents are considered to be integral members of the diagnostic staff and are expected to discharge their duties accordingly. The specific coverage of residents and staff pathologists are outlined in weekly and weekend intervals in the Anatomic Pathology Schedule. Weekend resident coverage in Autopsy Pathology is scheduled by the Chief Resident and is integrated into the Anatomic Pathology Schedule. The responsibilities and duties given to the residents are measured
with regard to their level of training and experience. It is expected that residents will consult freely with the staff pathologists when questions of responsibilities arise.

(2) Business Hours

Residents are expected to be present in the Department during working hours, which are from 7:30 a.m. until 5:00 p.m. Residents are provided pagers for use while on service while inside or outside of the hospital, but residents should also notify the secretaries in Anatomic Pathology of their whereabouts when in the hospital. When it is necessary to be away from the hospital, the secretaries should be notified when they are leaving and when they expect to return. The resident is responsible for obtaining coverage and notifying the staff pathologist to whom they are assigned of the change in coverage before leaving the department.

(3) Response Time to Pages Outside the Hospital

Residents who are “on call” in the evenings and on weekends should be readily available to respond immediately to a consultation requested by a member of the Medical Staff and be physically at the hospital within 30 minutes of the call. If for some reason the pager is inoperable, residents should notify the Hospital Operator of a telephone number where they can be reached.

(4) Required Conferences

The resident is expected to attend all conferences at the Rhode Island and The Miriam Hospital at which autopsy findings concerning their cases are reviewed.

These conference times will vary and weekly schedules are online in the Pathology conference schedule.

Residents should notify the staff pathologist when they will be away for conferences outside of the hospital so that coverage can be maintained. Residents are also encouraged to attend other conferences and regional pathology society meetings. The resident must provide for coverage of service responsibilities while away.

(5) Vacations and Leaves of Absence

Leave of absence from assigned rotations for vacation or professional meetings must be approved by the Director of the Residency Program and coverage arranged two weeks prior to the date of leave. Vacation time cannot be taken during the first two weeks of July and the last two weeks of June.

(6) Time Guidelines for Completion of an Autopsy

The staff pathologist and the resident will adhere strictly to the time guidelines for completing an autopsy cited above. When cases become unduly delayed, the staff pathologists will assert their prerogative to complete and sign out the case. In this situation, the resident cannot claim the autopsy for satisfying the training requirements of the American Board of Pathology.

The clinical and pathologic findings are reviewed with the staff pathologist after the dissection is completed on the first workday following the autopsy. The physician, who requested the autopsy and his/her colleagues, should be asked to attend the review and should be notified of the findings immediately after the review, if they elect not to attend. After the review, the Preliminary Anatomic Diagnosis should be written by the resident and reviewed with the staff pathologist in order to issue a report within 48 hours.
Autopsy Reporting Instructions for Residents

Preliminary Anatomic Diagnosis

1. Double click on Procedure/Addendum Entry/Edit on the Menu bar.
2. Type specimen number in specimen # field.
3. Press <Search> or hit <Enter> key. Procedure/Addendum Entry/Edit will appear in Activity field at bottom of screen.
4. Press <OK> or hit <Enter>. The Select Procedure/Addendum window appears. Select ANAPRE by moving cursor or using mouse to highlight that selection if not already highlighted.
5. Press <OK>. The Procedure/Addendum Entry/Edit window appears.
6. Click Procedure Pathologist field. Type first few letters of pathologists last name (eg. Mcc – Dr. McCombs name should appear) then hit <Tab> to accept the correct name (or use down arrow next to blank field to select correct pathologist). Another blank field will appear. Type first few letters of your last name. Hit <Tab> when your name appears.
7. Click on Text tab.
8. Press <Edit Text>. Type the PAD in the Preliminary Anatomical Diagnosis field (follow the attached autopsy outline format).
10. Press <Save/Close>. Next Process pop-up window appears. The Complete/Send to Pathologist option button is the default. You can enter text in the Memo field if you wish.
11. Press <Yes> to save changes and to send the case to Pathologist for electronic signout.

BE SURE TO USE SPELL CHECK EACH TIME YOU EDIT A REPORT IN COPATH. SIMPLY CLICK YOUR MOUSE ON THE FIRST FIELD ON YOUR SCREEN AND HIT <F7> TO ACTIVATE SPELL CHECK.

Clinical Summary

1. Double-click on Gross Description Entry/Edit.
2. Type specimen number in specimen # field.
3. Press <Search> or hit <Enter> key. Gross Entry/Edit will appear in Activity field at bottom of screen.
4. Press <OK> or hit <Enter>. The Gross Description Entry/Edit window appears.
5. Press <Edit Text>.
6. Type the Clinical Summary in the Clinical Summary field in paragraph form (see attached autopsy).
7. If you are going to continue to work in another section of the autopsy use the down arrow on the Copath toolbar or down arrow on keyboard or your mouse to move to the section you wish to work on (Case Discussion/Final Diagnosis must be accessed through another screen).
8. If done for this session Press Close and Return to Copath.
10. Press <Yes> to save changes.

Gross Description

1. Follow steps II. 1-6 above.
2. Type Gross Description in the Gross Description/Blocks/Microscopic Description template that has been dropped in for you. Move around the template using your mouse. The # is your guide to show where typing should begin (backspace over # and begin inputting data).
3. Any rows that will not be used must be deleted by highlighting rows you wish to delete. Click <Table> at top of screen (or right click on highlighted rows). Click on <Delete Cells>. Click on <Delete Entire Row>. Click <OK>.
4. If you are going to continue to work in another section of the autopsy use the down arrow on the Copath toolbar or down arrow on keyboard or your mouse to move to the section you wish to work on. (Case Discussion/Final Diagnosis must be accessed through another screen).
5. If done for this session Press Close and Return to Copath.
7. Press <Yes> to save changes.

Tissue Blocks
1. Follow directions for Gross Description – placing blocks in appropriate block field in Gross/Block/Microscopic template.

Microscopic Description
1. Follow directions for Gross Description – placing microscopic description in appropriate microscopic field in Gross/Block/Microscopic template.

Case Discussion
1. Double-click on Final Diagnosis Entry/Edit.
2. Type specimen number in specimen # field.
3. Press <Search> or hit <Enter> key. Final Entry/Edit will appear in Activity field at bottom of screen.
4. Press <OK> or hit <Enter>. The Final Diagnosis Entry/Edit window appears.
5. Press <Edit Text>.
6. Type the Case Discussion in the Case Discussion field in paragraph form (see attached autopsy).
7. If you are going to continue to edit another section of the autopsy use the down arrow on the Copath toolbar or down arrow on keyboard or your mouse to move to the section you wish to work on. If computer does not allow you to edit other fields (it can be quirky) you may need to go to step 8 and come back in later under Gross Description Entry/Edit.
8. If done for this session Press Close and Return to Copath.
10. Press <Yes> to save changes.

Final Diagnosis
1. If your Preliminary Anatomic Diagnosis is easily edited vs. a complete rewrite, follow the instructions below (if you do not wish to use the Preliminary Anatomical Diagnosis – go to step 2.)
a. Double click on Procedure/Addendum Entry/Edit on the Menu bar.
b. Type specimen number in specimen # field
c. Press <Search> or hit <Enter> key. Procedure/Addendum Entry/Edit will appear in Activity field at bottom of screen.
d. Press <OK> or hit <Enter>. The Select Procedure/Addendum window appears. Select ANAPRE by moving cursor or using mouse to highlight that selection if not already highlighted.
e. Press <OK>. The Procedure/Addendum Entry/Edit window appears.
f. Click on Text tab.
g. Left click, hold, and drag mouse over all PAD text in white screen (See picture of screen below). Right click on white screen, left click <Copy>. 

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2. Double-click on Final Diagnosis Entry/Edit.
3. Type specimen number in specimen # field.
4. Press <Search> or hit <Enter> key. Final Entry/Edit will appear in Activity field at bottom of screen.
5. Press <OK> or hit <Enter>. The Final Diagnosis Entry/Edit window appears.
7. If you copied the PAD, right click in the Final Diagnosis field and left click <Paste>. The PAD will be placed in the field and you may now edit it. If you didn’t copy PAD – type in your FAD now (use attached outline format as a guide).
8. If you are going to continue to edit another section of the autopsy use the down arrow on the Copath toolbar or down arrow on keyboard or your mouse to move to the section you wish to work on. If computer does not allow you to edit other fields (it can be quirky) you may need to go to step 9 and come back in later under Gross Description Entry/Edit.
9. If done for this session Press Close and Return to Copath.
10. Press <Save/Close>. Next Process pop-up window appears. The Complete/Send to Pathologist option button is the default. You may write a memo if you wish.
11. Press <Yes> to save changes and send to pathologist’s worklist for electronic signout.

Distribution of Autopsy Reports

During the accessioning process in addition to the attending physician listed on the chart and the clinician who signs the autopsy permission slip the following names are to be added to Autopsy Report “Additional Copies To” field:

FOR BOTH RHODE ISLAND AND THE MIRIAM HOSPITALS
Chief Resident of Service (Medical or Surgical)
Director of Service (Medical or Surgical)
RHODE ISLAND HOSPITAL
Rachel Jarocz - Quality Management
David Harrington, M.D. - if Surgical Service
3. Infection Control

Infection control is of critical importance in the care of the body after death in order to minimize the risk of exposure to hospital personnel and other persons. Therefore, the Policy of Universal Precautions as adhered to by Hospital and the Department, and its procedures are followed in the Autopsy Suite. That is, the Autopsy Suite and the Morgue are considered to be controlled, potentially contaminated areas, and only behavior that complies with The Policy of Universal Precautions is permitted. Operational guidelines for cleaning and maintenance of the Autopsy Suite and the Morgue are posted in the area.

a. Biosafety Levels (BSLs)

The recommended biosafety levels for organisms are those conditions in which the agents can be handled safely.

BSL-1 includes work with agents that are not known to cause disease in healthy adults. Standard microbiological practices (SMP) are applicable.

BSL-2 includes work with agents that can cause human diseases. SMP apply in addition to limited access, sharps precautions, protective clothing, gloves, face shield, eye protection, foot covers. Examples of agents in this category include: HIV; HTLV; HBV; HDV; hepatitis A,G,E; cytomegalovirus.

BSL-3 includes work with indigenous/exotic agents that may have serious or lethal consequence. BSL-2 requirements plus decontamination of all waste and lab clothing, respiratory protection as needed, double door access. Examples of agents in this category include tularemia, mycobacteria, epidemic meningitis, brucella.

BSL-4 includes work with dangerous/exotic agents of life threatening nature. Examples include rabies, hemorrhagic fevers (Ebola, Lassa) etc.

Specific instructions for prion associated diseases are presented separately.

If there are any questions or concerns regarding BSLs, residents must consult with attending pathologist and Director of Infectious Disease/Institutional Infection Control Officer prior to the start of the autopsy.

b. Universal Precautions as Applied to the Autopsy Suite

Every autopsy will be managed in a consistent manner as though it were an infectious disease case of high-risk type (eg, hepatitis B). Therefore, no additional precautions need be taken when examinations are done on unsuspected cases of tuberculosis, other hepatitis viruses, acquired immunodeficiency syndrome or human immunodeficiency virus. Directions for handling Creutzfeldt-Jakob disease are presented in the Appendix.

(1) Clothing will be of total-barrier protective type (see below).

(2) Stainless steel, mesh gloves may be worn as protection when eviscerating the body.

(3) The thorax should be opened carefully along the costochondral junctions with a bone cutter. Sharp, bone edges should be avoided and blunted when they occur.
(4) The cranium should be opened within an enclosing bag, when possible, using a vibrating saw under a dampened towel to mitigate aerosol generation. The bag should be carefully removed maintaining any bone dust and disposed of.

(5) Only one scalpel should be allowed at dissecting table at any one time.

(6) When the case is one of known high-risk type, the autopsy method employed may be one that minimizes personnel risk exposure and satisfies the reason(s) for the autopsy.

(7) After the autopsy is completed and before returning it to the Morgue, the pathology technician prepares the body for transfer to the funeral director. The technician will clean the body first with detergent and then with a 10% solution of bleach followed by a clean water rinse.

c. Personnel Rules

(1) All employees and visitors are obligated to follow the established policies of the Department and Hospital regarding personnel health and infection control (see Infection Control Manual).

(2) Individuals, who are immunosuppressed or immunodeficient, who have uncovered wounds, weeping skin lesions, or other dermatitides, or who are pregnant, are not permitted to enter the Autopsy Suite at any time.

(3) Eating, drinking, or smoking are not permitted in the Autopsy Suite or the Morgue.

(4) In the event that an employee is exposed to a known or suspected infectious agent, the employee must report the incident to the Employee Health Department.

(5) Personnel are considered to be at increased risk for exposure to hepatitis B virus and are offered vaccination without charge through the Employee Health Service.

d. Clothing Required in the Autopsy Suite

(1) When an autopsy is not underway, surgical gloves and a water-proof apron should be worn at all times when handling tissues in the Autopsy Suite.

(2) All persons performing or assisting in postmortem procedures must wear total-body barrier protection that includes scrub suit, water-proof gown, shoe covers, gloves, cap, mask, and protective eye wear. Gloves should be worn doubled and changed frequently (at least hourly) during the autopsy. Other persons who are in the Autopsy Suite to observe the autopsy must be attired similarly.

(3) Reusable clothing should be discarded in laundry bags provided in the Autopsy Suite.

(4) Disposable attire should be put in biohazard waste container in Autopsy Suite, which will be disposed of according to Hospital policy.

e. Sharp Instruments and Needles in the Autopsy Suite

(1) Only one scalpel and only blunt nose scissors should be used at the dissection table.

(2) All used scalpel blades, needles, and other sharp disposable instruments should be discarded in the puncture-resistant container, which will be disposed of according to Hospital policy.

f. Procedures for Cleaning Equipment, Instruments, and the Autopsy Suite

(1) The pathologist will clean up immediately all spills of bodily fluids or tissues that occur while examining tissues. A detergent solution should be used with paper towels or a mop followed by disinfecting the spill area with 10% bleach solution.
(2) Cleaning and decontamination of Autopsy Suite will be done after each postmortem examination is completed by Pathology Technician. It is the prosector's responsibility to leave work areas as clean as possible without initiating the decontamination protocol.

g. Decontamination protocol

(1) The Pathology Technician will decontaminate the work surfaces, and floors that are contaminated during postmortem procedure with an appropriate detergent and germicide. All surfaces and floors will be washed with detergent solution and disinfected with a 10% bleach solution.

(2) Instruments should be rinsed with water and then disinfected in a fresh disinfected solution (e.g., Cidex) followed by a detergent wash and fresh water rinse before reusing.

(3) The camera should be handled only with a clean pair of gloves and must be decontaminated with detergent solution, if contamination occurs. Even so, the camera should always be considered to be potentially contaminated and handled while wearing gloves.

(4) The photography unit should be kept as clean as possible while using, and must be cleaned with detergent solution and 10% bleach solution after each use. Specimens should be transported from dissecting table to photography unit in a container to prevent contamination of the floor by spillage. Should this occur, the floor or other surface should be decontaminated as described above.

(5) The Autopsy Suite is cleaned periodically by the Environmental Services Department or as needed.
4. Methods Used in Performance of the Autopsy

The following section provides a brief outline for performing an autopsy. The specific procedural details will be demonstrated by the chief resident and attending staff pathologist. Additional details are provided in standard autopsy textbooks. Two excellent sources of information are as follows:


a. Absolute cleanliness must be observed in the Autopsy Suite at all times. In most circumstances, the Pathology Technician is available to assist the prosector in his movements in the suite to mitigate spillage. However, the rule of absolute cleanliness applies to the prosector when working in the absence of the technician or another assistant.

(1) Blood or fluid must not be allowed to contaminate the floor, cabinets, or other fixtures. If accidental spills occur, the prosector is responsible to clean the contaminated area immediately.

(2) Tissues that are transported from the dissecting table for photography or other reasons should be moved within a container to avoid spillage of fluids.

(3) Soiled gloves should be replaced with clean gloves before handing cabinet hardware, door knobs, the telephone, the photography stand or camera, etc. Should such objects become contaminated, they should be immediately decontaminated using appropriate means (see Infectious Control above).

b. The body should be measured and weighed and an external examination performed. Every organ should be measured and recorded for weight and/ or dimension (see Autopsy Pathology Outline, Appendix) and sampled for microscopic evaluation as appropriate to the clinical and pathological findings and protocol. Specific lesions should always be taken for micro-scopic examination. When appropriate, whole organs should be fixed for later review. Tissue cassettes that are to be submitted to Histology should be labelled:

A1 - A\textsubscript{n} for systemic slides  
B1 - B\textsubscript{n} for brain slides  
D1 - D\textsubscript{n} for decalcification slides

The organ/tissue sites should be noted in the Autopsy Block sheet as the blocks are cut. These identifiers are transcribed following the appropriate organ section of the Gross Description section of the protocol.

c. Tissues that have been formalin-fixed should always be examined and sectioned under the permanent fume hood or one of the portable hoods in accordance with the Hospital's Chemical Hygiene Plan for Formaldehyde (see Appendix).

d. Microbiologic cultures should be performed in cases of infectious disease or when lesions are suspicious for infection.
e. Gross organ photographs of lesions and organs should be taken to document evidence of all pertinent findings.

Two general approaches are used for the performance of autopsies. In the Virchow procedure, most of the dissection is performed in situ with the organs being removed singly or in organ system blocks. In the Rokitansky procedure, all of the organs are removed in a single block with subsequent dissection of individual organs or organ systems.

a. **External examination:** Establish correct identification of the patient. Note color of skin, hair, eyes, presence or absence of livor, rigor, scars, etc.

b. **Opening of body:** A “Y” shaped incision is made with the tips of the “Y” at the shoulder, the base at the pubis and the intersection at the xiphoid. In women, the upper portion of the “Y” should have a “U” shape, passing inferior to the breast. After reflecting the skin upward, the chest plate is removed by cutting the ribs lateral to the costochondral junction. The chest plate should be reflected upward.

c. **In Situ examination:** Note the presence of fluid or blood accumulation in pleural, pericardial and abdominal cavities. Note the presence of any adhesions. Obtain cultures as needed. Open pulmonary artery in situ and note presence of embolus.

d. **Evisceration:** Free up neck organs by carefully dissecting the skin. Tie off common carotid arteries. Cut across the larynx above the thyroid cartilage. Free diaphragm by cutting along the lateral and posterior attachments. Remove small and large bowel by double clamping the duodenum at the ligament of Treitz. Cut between the 2 clamps and separate bowel from its mesentery along its length. Proceed through the entire small and large bowels. Clamp the sigmoid where it becomes retroperitoneal and cut across the lumen. Free up pelvic organs anteriorly and posteriorly by blunt dissection. Make an incision across the rectum and prostatic urethra or vagina. Remove entire organ block by lifting and reflecting inferiorly while cutting along the vertebral column. Cut the common iliac vessels bilaterally to release the block.

e. **Brain:** To remove the brain, an incision is made from the mastoid process behind the ear, extending coronally to the opposite mastoid. Skin and muscle are reflected anteriorly to approximately 1cm above the eyebrows. The posterior scalp is reflected to the occipital protuberance. The skullcap is cut with a bone saw following a line horizontally on both sides from the center of the forehead to the base of mastoid process. A notch is usually cut at the center of the forehead to allow more stable repositioning of the skullcap. The second cut is made over the posterior superior surface of the skull such that the angle from this cut to the first cut is more than 90°. The brain is removed by drawing back the frontal lobes. Optic nerves and carotid arteries are cut together with the pituitary stalk. The temporal lobes are lifted and the tentorium is cut with scissors or a scalpel blade. Cervical spine is then cut as far down as possible. The pituitary is removed by fracturing the sella turcica. Eyes can be removed anteriorly or posteriorly.

**Examination of Specific Organs:**

a. **Heart:** For patients with known or suspected coronary disease, dissect coronary arteries from heart, fix in formalin, decalcify and cut at 2-3mm intervals, keeping their correct anatomic arrangements. For patients without suspected coronary artery disease, section vessels at 5mm intervals on the surface of the heart. For patients with ischemic heart disease, bisect the heart below the level of the valves. The apex is cut by making serial sections at 1cm intervals. The base of the heart should be dissected in the direction of blood flow.

Alternatively, the entire heart can be dissected in the direction of the blood flow. Open the right atrium by connecting the inferior and superior vena cava. Extend the cut to include the right atrial appendage. Open the right ventricle by cutting from the right atrium along the posterior surface of the heart adjacent to the septum. Open the right ventricular outflow on the anterior surface of the heart. The left atrium is opened by cutting through the two left and right pulmonary veins, connecting these cuts, and extending into the left atrial appendage. Cut from the left atrium into the left ventricle on the posterior surface of the heart. Then open the left ventricular outflow along the septum.

b. **Lungs:** Usually one lung is inflated and the other is cut fresh. Formalin is pumped into the airways until the lobes expand and then the lung is submerged in formalin overnight. Several 1cm thick slices are prepared after fixation. To open the fresh lung, the bronchial tree is open along its
branches extending the cuts as far peripherally as possible. The pulmonary vasculature is also opened out to the periphery.

c. **Thyroid, Parathyroids and Trachea:** Locate the parathyroid glands. Remove thyroid from trachea and prepare cross sections of each lobe.

d. **Liver and Spleen:** Examine vasculature and ducts. Make 1 to 2cm thick horizontal slices.

e. **Stomach Block:** Open esophagus down to stomach and open along the greater curvature. Continue cut to pylorus. Open the gallbladder and probe the common bile duct into the duodenum. After removing fat and vessels from the pancreas, make multiple vertical transverse cuts from the tail to the head. About halfway through the tail, insert a probe through the main pancreatic duct distally into the duodenum. Make multiple cuts through the head by cutting along the probe. Continue opening the duodenum from the pylorus cutting along the side opposite the ampulla. Continue opening the duodenum from the pylorus cutting along the side opposite the ampulla. Open common bile duct along its length to the ampulla.

f. **Gut:** Open the small and large bowel along its length adjacent to the mesenteric insertion.

g. **Urinary Block:** Dissect the rectum from the bladder. Separate the uterus with ovaries and vagina from bladder. Open vagina, cervix and uterus at 3 and 9 o’clock. Section ovaries longitudinally. Dissect fat from aorta. Strip fat and capsules from kidneys. Remove fat from bladder and examine for thrombi in pelvic venous plexus. Open the aorta and renal arteries and trace back to kidneys. Bivalve kidneys and extend cuts from pelves to ureters and bladder. Cut into the bladder dome and out through the urethra along the anterior surface. Make multiple cross sections through prostate. Remove adrenals from superior aspect of kidneys and make multiple cross sections. Remove testes and bivalve each.

h. **Brain:** The brain is cut after complete formalin fixation. Vessels of circle of Willis should be removed first, preserving orientation and connections. Remove brainstem and cerebellum by cutting the peduncles as cephalad as possible. Divide cerebrum into anterior and posterior halves by making a coronal section through the mamillary bodies. Make serial coronal slices at 1cm intervals. Make serial sections of the brainstem either with the cerebellum attached or cut the cerebellar peduncles and section the cerebellar hemispheres separately.
To Autopsy Technique

An Introduction

Step-by-Step Diagrams

Kim A. Collins, MD
Grover M. Hutchins, MD
Inspect surfaces and contents of the pleural space.

1. Open the body without cutting the skin 1.5 mm above the symphysis pubis.
2. Incise the skin and muscularis about 1.5 mm from the symphysis.
3. Insert a fine, closed camp through the incision and remove the skin. Make a pool of water in the axilla. Place a medium-sized jumbo rubber dam on the chest and pull it over the incision. Secure the rubber dam with two rubber bands. Make a pool of water in the axilla. Insert two medium-sized jumbo rubber dams on the chest over the incision. Secure the rubber dams with two rubber bands.

4. a. an oscillating saw
   b. a lumbar knife and bone saw
   c. punch biopsy (if necessary)

5. Detach the diaphragm from the chest wall.

Preserve the muscle attachments to the sternocostal junction and the diaphragm.

Release the diaphragm, cut the ribs, and enter the peritoneal cavity.
8. Remove colon. Empty the bowel and cut at the rectosigmoid junction.

7. Detach the mesentery close to the bowel wall.

6. Cut across the bowel with either a. scalpel strokes perpendicular to the bowel wall, or b. scissors.

5. Clamp the proximal jejunum.

4. Ligate the bowel near the duodenal-jejunal junction.

3. Make a slit through the mesentary close to the bowel wall.

2. Locate the ligament of Treitz.

1. Open the greater omentum between the stomach and colon to inspect the pancreas.

IN SITU EXAMINATION: Inspect and palpate all organs and surfaces. Collect specimens for microbiology, toxicology, etc.
1. Obtain transverse sections of unfixed bowel.
2. Open the small bowel adjacent to or within the line of mesentery attachment with an enterotome.
3. Open colon and appendix along anterior taenia.
4. Carefully clean and examine the entire intestinal mucosa by pulling the bowel between the index and middle fingers under running water.
5. Take additional sections as needed. Lay the serosal surface on paper towel, invert, and float in fixative.
1. Free the male pelvic organs from the pelvic wall by blunt finger dissection in the extraperitoneal space.

2. Identify and cut the membranous urethra with scissors, and transect the rectum with a knife.

3. Push the testes from the scrotum into the inguinal canal and detach by cutting the spermatic cord (left long).

4. Expose the shaft of the penis below the symphysis pubis and remove a segment.

5. Free the female pelvic organs by blunt finger dissection in the extraperitoneal space, and transect the urethra, vagina, and rectum with a knife.

Elevate the pelvic organs, separate any remaining fascial attachments, and lay them back into the pelvic cavity.
1. Reflect the carotid arteries clamping the end of the trachea and free the neck organ block with blunt finger dissection.

2. With a long knife, detach the neck organ block aspect of the mandible.

3. Reflect the lower pharynx.

4. Locate and remove the parathyroids.

5. Remove, weigh, and take sections of thyroid.

6. Cut the pharynx in the posterior midline.

7. Cut the larynx and upper trachea in the posterior midline and crack open.

8. Cut the tongue transversely and take sections to demonstrate the lingual tonsil.

9. Separate the hair and incise the scalp across the vertex, beginning behind the right ear.

10. Incise and slightly reflect the temporalis muscles. Cut the dura mater from the skull cap.

11. Incise and reflect the scalp down to the hairline.

VI. NECK ORGANS AND HEAD

1. Reflect the scalp and free the neck organ block from the skull.
1. Open superior longitudinal sinus.

2. Cut dura along the line of skull cut and reflect toward the median. Inspect the brain.

3. Retract frontal poles and cut anterior attachments of falx.

4. Elevate olfactory bulbs, retract brain, and cut:
   a. optic nerves,
   b. cranial nerves, and
   c. other nerves.

5. Retract brain medially and cut bilateral attachments along the petrous ridges.


7. Retract cerebrum and cut remaining cranial nerves as close to bone as possible, vertebrobasilar arteries and spinal cord as distally as possible.
1. Open dural sinuses.
3. Pull on skull to check for brazier fractures.
4. Take the pituitary gland out.
5. Examine the middle ears; either:
   b. remove a block of purple ridge
   a. open the cavity with a chisel or
5. b) cut the anterior duct
4) chisel off the posterior orbital process:
5) chisel off the posterior orbital process.
   a) remove a block which includes the optic
4. Take the pituitary gland, either:
3) pull on skull to check for brazier fractures.
2) strip brazier duct by rolling on a large clamp.
1) inspect base of skull.
4. Examine the cord by opening the dura in the anterior and/or posterior midline or by sectioning the cord transversely with a dural astrocopter.

3. Expose all posterior ganglia and nerve roots of interest to be removed in continuity with the cord. Develop the sacral plexus by freeing a finger between it and the pelvic wall. Cut sacral roots but maintain lumbar connections to the cord and detach the anterior hypoganglionic connections to the cord.

Beginning at the lower end, lift the vertebra column and free the upper cervical cord by cutting the dura and transecting the vertebral column in the thoracic area. This is helpful to use the vertebral body downward into the vertebral canal.

1. With the oscillating saw, expose the spinal cord between L5-S1 and C3-C4 discs.

   a. In the lumbar region, cut the pedicles and try to avoid injury to the cord.

   b. In the thoracic area, cut the pedicles of the vertebral body downward into the vertebral canal.

   c. In the cervical region, cut through the lateral part of the vertebral body and the pedicle of the vertebral body.
1. Obtain a complete section of the sternoclavicular joint with the oscillating saw or band saw.

2. Cut vertebral bodies into longitudinal segments with the band saw and take specimens.

3. Section ribs longitudinally through the short axis with the oscillating saw. Squeeze marrow from a portion of rib (or any other bone) for smears or tissue blocks.

4. Take bone biopsies from the iliac crest (or other areas) with a trocar.

5. Open the knee joint, cut and reflect the extensor tendon and patella, inspect the joint surfaces, and take synovium or other specimens.

6. Make two parallel cuts 1 cm apart and one-third through the femoral shaft with the oscillating saw. Obtain a specimen of femoral marrow with the iliac crest.
1. From the posterior aspect, identify and open the thoracic duct and Cava superior.
2. Open the aorta from the arch to the left common carotid artery in the posterior midline.
3. Incise and retract the left lung. Open the aorta.
4. Transect the aorta.
5. Incise the aorta and esophagus downward.
6. Separate the heart-lung block by cutting the pericardium from the diaphragm and transecting the inferior vena cava.

Keep the organs anatomically arranged. Blunt dissect as much as possible. Insert, inspect, and sample. Modify technique as needed. Clean up as you go.
12. Open any remaining branches of enterogastric arteries and veins.

11. Transect the duodenum and remove the stomach and esophagus.

10. Boil dissect the gallbladder from its bed and open the biliary tree.

9. Probe the common bile duct and pancreatic duct from the ampulla of Vater.

8. Open the esophagus, stomach, and duodenum following the greater curvatures, and inspect and sample them.

7. Rotate the liver up and back to expose the hilum.

6. Open the superior mesenteric vein and branches.

5. Open the mesentry.

4. Open the posterior midline of the portal vein and branches.

3. Open the superior mesenteric artery and its branches.

2. Open the celiac axis and its branches.

1. From the Posterior Aspect.
5. Section, inspect, and sample the hilar, peripancreatic, and mesenteric lymph nodes.

4. Section the spleen in the same manner as the liver; "break" it, inspect, and sample it.

3. Using a bowel for protection, grasp the pancreas from behind, "break" it, and inspect and sample it.

2. "Break" the detached parts of the liver, and inspect them.

1. Grasp the pedicle of the liver, and section the liver along its longest axis on either side of the hilum.
1. From the anterior aspect and avoiding the ureter, open the anterior vena cava, renal veins.
2. Rotate the lower block and open the remaining iliac veins.
3. Open the remaining iliac arterial branches.
4. From the posterior aspect, open the renal arteries.
5. Weigh the kidneys and bisect them so as to remove the posterior halves.
6. Open the collecting systems and the ureters down to the bladder.
7. Strip the capsule from the anterior half of each kidney.
8. "Breastfeed." Inspect and sample the posterior halves of the kidneys.
7. "Break the" the ovaries and fallopian tubes along their long axes and inspect and sample them.

6. From the posterior aspect, cut the lateral aspects of the vagina, cervix, and uterus and inspect and sample them.

5. "Break the" the seminal vesicles across their long axes and inspect and sample them.

4. From the posterior aspect, cut the prostate, leaving the bladder attached by the (anterior) capsule, and inspect and sample it.

3. From the anterior aspect, open the bladder from the apex toward, but not into, the urethra, and inspect and sample it.

2. Reflect the rectum from the other pelvic organs by blunt and sharp dissection, beginning at the anal end, and caudal, inspect, and sample it.

1. From the posterior midline, open the rectum in a midline incision.
1. From the anterior aspect, rotate the lungs laterally and under to expose the mediastinum.
2. Open the pulmonary trunk and major branches for control.
3. Transect the pulmonary artery.
4. Elevate the heart and transect the pulmonary veins in turn, the pericardial reflections and any other attachments to remove the heart.
5. Open the superior vena cava and its branches.
1. Weigh the lungs.

2. From the posterior aspect, rotate the anterior aspects of the lungs medially and under.

3. Section the lungs by placing the knife in the bronchus, and slice laterally, and open the trachea, mainstem bronchus, and proximal major bronchial lumen.

4. Section the lungs medially and laterally, exposing on the cut surfaces.

5. "Unroof" the bronchi and vessels with the superior parts of the lungs from lateral to medial.

6. Section the carinal, peribronchial, and paratracheal lymph nodes in the plane as the lung slices.
1. Identify the venous cavity and open the right atrium.

2. Open into the right atrial appendage.

3. Detach the free wall of the right ventricle close to the septum.

4. Extend the cut along the right ventricular outflow tract through the pulmonary valve commissure.

5. Open the left atrial appendage.

6. Open the left ventricle between the superior pulmonary veins.

7. Pass a hand through the atrial septum to the left upper pulmonary vein.

8. Pass a hand through the right lower pulmonary vein and pass upward perpendicularly to the interventricular septum.

9. Pass a hand through the right atrial appendage and pass upward perpendicularly to the interventricular septum.

10. Reflect the pulmonary trunk from the aorta through the commissure between the two coronary cusps.

11. Reflect the aortic cusps and cut the aorta toward the aortic root. Open the aorta toward the aortic root and pass downward perpendicularly to the interventricular septum.

12. Angle the scissors and cut to transect the left ventricular wall and septum and engage the ends of the interventricular septum.

13. Position the knife parallel to the interventricular septum and transect the left ventricular wall and septum.

14. Transect the coronary arteries at close intervals.
6. **Weights and Measures of Adult Organs**

<table>
<thead>
<tr>
<th></th>
<th>Weight (M)</th>
<th>Weight (F)</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart</td>
<td>300 g (270-360)</td>
<td>250g (200-280)</td>
<td>RV: 0.2 to 0.4 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LV: 1.5 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Atria 0.2 cm</td>
</tr>
<tr>
<td>Lungs (Right)</td>
<td>450g (360-570)</td>
<td>250g (325-480)</td>
<td></td>
</tr>
<tr>
<td>Lungs (Left)</td>
<td>375g (325-480)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver</td>
<td>1650g (1500-1800)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidneys (combined)</td>
<td>313g (230-440)</td>
<td>288g (240-350)</td>
<td></td>
</tr>
<tr>
<td>Adrenals (each)</td>
<td>9.7g</td>
<td>8.3g</td>
<td></td>
</tr>
<tr>
<td>Parathyroids (combined)</td>
<td>0.12-0.18g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pituitary</td>
<td>0.6g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testis (each)</td>
<td>25g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>40g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uterus</td>
<td>35-100g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovary</td>
<td>5-8g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spleen</td>
<td>160g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain</td>
<td>1400g</td>
<td>1275g</td>
<td></td>
</tr>
</tbody>
</table>
7. **Unclaimed Bodies**

Disposition is to the Department of Clinical Social Work.

a. Clinical Social Work is notified by the Bed Control Office in Admissions (RIH) and Health Information Services (at TMH) when there is an occurrence.

b. Patient’s chart is read and an attempt to contact any relative or friend who is identified there is made.

c. Doctors’ offices, agencies, or nursing homes which may be listed or mentioned in the record are contacted.

d. Providence Welfare is alerted to the situation and to explore the patient’s eligibility for a welfare funeral.

e. An obituary notice is placed in the Providence Journal for one day, informing the community of patient's death and asking for friends or relatives to call the DCSW with information they may have about the patient.

f. Clinical Social Work speaks to all callers about their willingness to make arrangements for the patient's burial. (No one except a spouse is obligated to bear any financial responsibility.)

g. If five days elapse with no contact from the community, Clinical Social Work sends the welfare department a copy of the death certificate and of the newspaper notice.

h. Clinical Social Work confirms with the relatives or friends, or the welfare department that a funeral home has been contacted to pick up the body.

i. The process takes at least two weeks subsequent to notification of an occurrence. If there are complications, it occasionally takes considerably longer.
8. Deceased Patient Transfer Protocol

A. Release of Body To/From Morgue

To gain access to the Morgue Monday – Friday 7:30 am – 4:30 pm contact:

Pathology x44750 (morgue) Pager 350-5623
X44758 (surgical suite) Pager 350-9790
X48523 (manager) Pager 350-5741

All other times contact:

Security x45221

If the walk-in refrigerator is full, follow instructions on the refrigerator door. Do not remove any items from the refrigerator. Do not leave an empty stretcher in the refrigerator.

The morgue log is to be completed for all bodies that are delivered and released from the morgue.

Personnel delivering a body to the morgue will complete the morgue log with the requested information (patient name, unit, date and time, whether or not there are personal effects and initials of person delivering the body).

The funeral home personnel are to obtain a release form and the death certificate from Admitting.

Funeral home personnel and person releasing body are to check identity of patient on wrist band, toe tag and strout tag.

Funeral home personnel will:

1. Locate the patient name on the morgue log and will record:
   - Funeral home and agent name
   - Date body is being released
   - Time body is being released
   - Whether or not there are personal effects with the body

2. Sign release form.

The person releasing the body will sign the release form and initial the morgue log.

The release form will be returned to Admitting by Pathology personnel.

B. Deceased Patient Transfer to Morgue

1. When a patient dies in the Hospital, the body is prepared by the Nursing Staff and moved to the Hospital Morgue not later than two hours after expiration. Promptness by the physician in pronouncing the patient with the assistance of the Nursing Staff is required in order to accomplish this process in a timely fashion.
(2) Access to the Morgue can be gained between 8:30 a.m. and 4:00 p.m. during the
weekday by calling the Division of Anatomic Pathology, ext. 4-4759 or beeper 350-5623
or ext 3-4244 or beeper 350-2571. Access during the evenings and nights (i.e., between
4:00 p.m. and 8:00 a.m.), and on weekends and holidays must be gained by calling the
Nursing Supervisor and the Security Department.

(3) The Hospital employee who delivers the body to the Morgue and the employee who
releases the body from Hospital must fill out the Morgue Log (Appendix), located on the
counter next to the refrigerator.

- Patient name
- Unit
- Date admitted to Morgue
- Time admitted to Morgue
- Initials of employee who moved body to Morgue
- Whether or not there were personal effects
- Name of funeral home and agent picking up body
- Date body was released
- Time body was released
- Whether or not there were personal effects with the body
- Initials of the employee who released the body from Hospital control.

C. Release of Body from Hospital by Security Personnel

Security personnel, when releasing a body from the hospital control, must:

(1) Supervise the funeral home personnel at all times while in the morgue.

(2) Check the identity of the patient using the wrist band, toe tag or shroud tag.

(3) Fully complete the morgue log with the requested information when releasing the body.

(4) Sign “R.I. Hospital Permit Following Death” and place in wall file (funeral home will
present this permit to you).

(5) Ensure the funeral home fully completes their parton the morgue log.

(6) Ensure that the funeral home does not leave an empty stretcher in the refrigerator.
9. Outside Institution/Physician Autopsy Request

Autopsies are performed by contract at Lifespan for Newport, Fatima, South County, Kent County, and Eleanor Slater Hospital. These hospitals contract with Rhode Island Hospital to perform the autopsies for a specific charge. They may have internal policies about payment but we do not charge a patient’s family for this service.

Physicians with Lifespan privileges and nursing homes may request an autopsy on a patient who either died at home or in a nursing home. The deceased must have been admitted to a Lifespan hospital in the past year and/or the requesting physician must be a Lifespan physician.

DATE: _______________  TIME: ______________________

INSTITUTION/PHYSICIAN REQUESTING AUTOPSY: _______________________________________

CALLER NAME/PHONE/FAX # _____________________

INTLS. OF PATH SECRETARY: ___________

PATIENT FULL NAME/DOB: ___________________________________________________________

RESIDENT ON AUTOPSY:  _______________________  RESPONDED TO BEEP: _______________

• Inform the caller to have the funeral home bring the chart, autopsy permission, and death certificate to:
  o (RIH - Bed Control) (TMH – HIS) when dropping off the body at the Morgue. *If the caller does not have access to an Autopsy Permission request form have them contact (RIH - Bed Control) (TMH – HIS) to have it faxed to them.*
  o Call (RIH - Bed Control 4-4523) (TMH – HIS 3-2220) to inform them a body will be arriving at the hospital and provide them with information collected above.

• Call the resident on autopsy call to inform them of the possibility of an autopsy – indicate on the form above that you have reached the resident.

QUESTIONS THAT MAY ARISE:

a. If a body and completed paperwork arrives by 3 p.m. (Monday-Friday), the autopsy is generally performed the same day. If the body and completed paperwork arrives after 3 p.m. the autopsy is performed the following day

b. There is no charge by Lifespan to the family for autopsies (it is possible that hospitals we have contracts with may charge the family directly for this service as we are paid by them.)
c. The family is responsible for the cost of transporting the body which generally can be arranged thru the funeral home.

d. If the caller has additional questions ask the resident to return the call.
APPENDIX

POCKET GUIDE TO AUTOPSY

DEPARTMENT OF PATHOLOGY

RHODE ISLAND HOSPITAL
THE MIRIAM HOSPITAL

A. Telephone Numbers and Locations

RESIDENT ON AUTOPSY SERVICE:
RIH Call Center (401) 444-5108
TMH Call Center (401) 793-3232

DIRECTOR OF AUTOPSY SERVICE:
(401) 444-5169

INTERFAITH CHAPLAIN:
RIH Call Center (401) 444-5108
TMH Call Center (401) 793-3232

MEDICAL RECORDS:
RIH: (401) 444-5553
TMH: (401) 793-2220

AUTOPSY REPORTS:
RIH: (401) 444-5169
TMH: (401) 793-4245

AUTOPSY SUITE:
RIH: (401) 444-4759
TMH: (401) 793-4255

AUTOPSY ASSISTANT:
RIH: beeper 350-5623
TMH: beeper 350-2571

RI MEDICAL EXAMINER:
(401) 222-2948

NEW ENGLAND ORGAN BANK:
1-800-446-6362
B. Procedure Following Death - for Residents:

Contact the Attending Physician. Confer with Attending regarding informing family. Obtain Death Packet (available from Bed Control at RIH and on each nursing unit at TMH). Notify New England Organ Bank (State law). If applicable, ensure that death is reported to Medical Examiner (please see Section D). Seek consent for autopsy. Complete Certificate of Death, if not a Medical Examiner case.

C. Basic Information on Autopsy

1. Autopsy, a method of examining the body after death, assesses the effects of disease and helps determine cause of death.
2. Autopsies should be requested on all hospital deaths. Something can be learned from every death.
3. The pronouncing or the attending physician should request an autopsy of the next-of-kin (see section E). There is no charge or fee for the procedure of autopsy.
4. The Authorization to Perform Post-Mortem Examination form (in the Death Packet) is to be signed by the next-of-kin (see #5) and by the physician obtaining the consent.
5. For granting autopsy consent, order of priority for next-of-kin is surviving spouse, then children - age 21 or older, then parent, then siblings - age 21 or older, then grandparents, then guardian at the time of death. The Department of Pathology will not perform the autopsy unless the order of priority for obtaining consent from next-of-kin has been followed.
6. Telephone consent is acceptable with a witness listening.
7. Any limitation or restriction on the performance of the autopsy (e.g. no examination of brain) must be stated on the consent form (please see footnote in Section E).
8. Hospital pathologists perform the autopsy in the Autopsy Suite between the hours of 9:00 AM and 4:00 PM seven days a week. Physicians are welcome to witness the autopsy, or to review organs later.
9. Pathologists review the patient's chart prior to the autopsy; however, the primary clinician is also contacted before an autopsy to allow additional mutual consultation. At this time, a clinician may indicate any item of special clinical interest.

10. The autopsy procedure usually takes about three hours. A preliminary report is issued within two days.
11. The final report usually follows in six to 12 weeks. Family members can obtain a copy from the patient's primary physician.
12. Clinicians can contact the resident pathologist to discuss the autopsy findings at any time.
13. If the autopsy is emergent, the Resident on Autopsy Service can be paged at any time by contacting the call center. If the autopsy is not emergent, or if you have any additional questions or concerns, please contact the Resident on Autopsy Service after 8:00 AM.
14. All patients who have ever been treated at Lifespan facilities can be autopsied here. If the patient is DOA, the Medical Examiner declines the case, and the family requests an autopsy, call the Director of Autopsy Service for appropriate course of action.

Deaths to be reported to the Medical Examiner

Deaths occurring in the following circumstances must be reported (Tel. 401-222-2948, 24 hours, 7 days) to the Medical Examiner

- Death of person under age 18;
- Death is due to, or there is a suspicion of, accident, homicide, suicide, trauma of any nature;
- Death is due to a hip fracture or other trauma in the elderly; or death is due to another cause, but admission was due to hip fracture or other trauma in the elderly;
- Death is sudden in a public place;
Death is from a drug or toxic substance, including ethyl alcohol containing beverages;
• Death is sudden and a patient has not been attended by a physician;
• Death is from an infection capable of causing an epidemic;
• Death is related to job, work place, or the environment;
• All DOA's. Death occurs within 24 hours or hospitalization or ER care;
• Death occurs during or immediately after surgery or diagnostic or therapeutic procedure, including blood transfusion;
• Organ donation;
• Maternal deaths where there is a suspicion of abortion or within 6 weeks of delivery;
• Deaths where the attending physician has no adequate or reasonable explanation of the cause;
E. Suggested Monologue-Requesting an Autopsy from Next-of-Kin

I am Dr. ___________________. I am sorry to inform you that ___________________ just passed away.

We believe the cause of death was _____________. To help us better understand this disease, and to evaluate its effects on the body we seek your permission to perform an autopsy. The procedure may benefit other patients with this disease by helping us improve treatment. Sometimes diseases that run in families are found and in those cases the family benefits by early diagnosis.

The autopsy will be performed in the Hospital. Physicians trained in the procedure will perform the autopsy. The procedure usually takes about three hours. During an autopsy, surgical techniques are used, and the procedure will not affect viewing of the body at funeral. The face is not altered, even when the brain is examined.

There will be no charge to the family for autopsy. You may request and obtain a copy of the report from the primary physician, who will be available to discuss the autopsy findings with you.

If you have any religious concerns, please feel free to discuss these with your religious or spiritual advisor. The Hospital Chaplain may also guide you. As next-of-kin, will you grant permission for an autopsy by signing the Autopsy Consent Form?

If next-of-kin is still reluctant, a partial autopsy may be requested:

"May we at least perform an autopsy limited to the patient's ________________?"

*The performance of an autopsy may be limited to the region or organ of interest. Such limitations may include: examination of any organ(s) of particular interest or even the performance of a post-mortem biopsy of any organ(s) of special concern.*
Appendix

Handling Specimens Containing Radioactive Material

1. Specimens from Patients Undergoing Diagnostic Nuclear Medicine Testing
   There are no special precautions necessary for samples taken from patients undergoing diagnostic Nuclear Medicine procedures such as bone scans, PET scans, cardiac stress tests, etc. Specimens shall be obtained observing "standard precautions". Disposal of samples may be made via the appropriate "Biohazard" waste stream. Excreta from these patients may be disposed of in the sanitary sewerage system.

2. Sentinel Node Biopsy Procedure:
   The amount of radioactive material used during a sentinel node procedure is small. These tissue samples may be transported from the OR to the laboratory without radiological precautions. Radiation dose to pathology personnel who handle the radioactive sentinel node are minimal. Therefore, the histological specimen can be processed without delay. Sentinel node specimens can be disposed of through ordinary medical waste disposal methods.

3. Specimens from Patients Receiving Therapeutic Doses of Radioactive Material:
   No blood work, urinalysis, cultures or other lab tests should be taken unless cleared by Radiation Safety. When obtaining specimens, use standard precautions. All specimen containers will be labeled with "Radioactive Material" labels or tape. Once analyzed, the specimen containers should be segregated from regular biological waste. Radiation Safety must be called for proper disposal. Call 4-5961 after a surgical procedure for Radiation Safety to monitor waste and surgical instruments.

   If tissue sample contains radioactive sources (e.g. prostate or lung tissue containing implanted radioactive seeds) Radiation Safety should be contacted to take possession of the radioactive seeds.

4. Death of a Patient:
   If a patient dies with a radioactive source or a therapeutic dose of radioactive material in the body, the Radiation Safety officer and responsible physician must be notified. Before the body can be removed to the morgue, a radioactive tag, indicating the source, amount and activity must be attached to the body. The Radiation Safety Officer will supervise the safe care and handling of the body. If the body is to be cremated, the Radiation Safety Officer must be consulted.
Appendix

Implantable Cardioverter – Defibrillators

An implantable cardioverter-defibrillator (ICD) consists of a pulse generator, one or two sensing electrodes and a set of anode and cathode electrodes for countershock. The generator is usually placed subcutaneously within the left anterior chest wall, and the electrodes reach their attachment points on the heart by a transthoracic or transvenous route. There is a risk of electric shock when the detection lead of an ICD is broken or cut, resulting in a discharge of 25-40J. Manufacturers recommend that the ICDs be deactivated before manipulation and that high quality latex surgical gloves be worn when handling the devices. The pathologist encountering an implanted device during autopsy should ascertain whether it is a pacemaker or ICD before continuing with the autopsy. If an ICD is present, the autopsy should be discontinued until the device is deactivated. ICDs should never be incinerated since they may explode. A manufacturer’s representative usually assists in the removal of an ICD.

The following steps should be taken:

1. Obtain complete medical history
2. Use standard precautions
3. Locate and identify all implanted electrical devices; **AVOID CUTTING LEADS**
4. If an ICD is present, do not proceed with the dissection until it is deactivated.
5. Call manufacturer’s representative (see list of telephone numbers)
6. Wait for representative to deactivate ICD or follow representative’s directions for deactivation.
7. Request manufacturer’s representative to obtain information from internal memory of ICD
8. Do not discard or incinerate ICD
9. Contact manufacturer for removal or collection of ICD
### Some Manufacturers of Implantable Cardioverter-Defibrillators

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Toll-Free Telephone Number</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biotronik (Lake Oswego, Ore.)</td>
<td>1-800-547-0394</td>
<td>Phylax 06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phylax 03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phylax XM</td>
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<tr>
<td></td>
<td></td>
<td>Phylax AV</td>
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<tr>
<td></td>
<td></td>
<td>Mycrophyllax</td>
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<tr>
<td></td>
<td></td>
<td>Mycrophyllax Plus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TACHos</td>
</tr>
<tr>
<td>Cardiac Pacemakers Inc. (St. Paul, Minn.)</td>
<td>1-800-227-3422</td>
<td>AIDB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VENTAK</td>
</tr>
<tr>
<td>ELA Medical (Plymouth, Minn.)</td>
<td>1-800-352-6466</td>
<td>Defender I, II, III, and IV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sentinel*</td>
</tr>
<tr>
<td>Guidant (Redmond, Wash.)</td>
<td>1-800-227-3422</td>
<td>Metrix†</td>
</tr>
<tr>
<td>Intermedics, Inc. (Angleton, Tex.)</td>
<td>1-800-231-2330</td>
<td>Res-Q</td>
</tr>
<tr>
<td>Medtronic Inc. (Minneapolis, Minn.)</td>
<td>1-800-328-2518</td>
<td>PCD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jewel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gemini</td>
</tr>
<tr>
<td>St. Jude’s Medical Cardiac Rhythm Management Division, formerly</td>
<td>1-800-525-7042</td>
<td>GUARDIAN</td>
</tr>
<tr>
<td>Teletronics Pacing Systems (Sylmar, Calif)</td>
<td></td>
<td>SENTRY</td>
</tr>
<tr>
<td>St. Jude’s Medical cardiac Rhythm Management Division, formerly</td>
<td>1-800-733-3455</td>
<td>Cadence</td>
</tr>
<tr>
<td>Ventritex Incorporated (Sunnyvale, Calif)</td>
<td></td>
<td>Cadet</td>
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<td></td>
<td></td>
<td>Contour</td>
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<td>Ventritex</td>
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<td>Angstrom</td>
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<td>Profile</td>
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<tr>
<td></td>
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<td>Photon</td>
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*Device is an atrial defibrillator  
†Device manufactured by Angeion, Plymouth, Minn.  
### APPENDIX

**MORGUE LOG - LIFESPAN ACADEMIC MEDICAL CENTER - DIVISION OF ANATOMIC PATHOLOGY**

<table>
<thead>
<tr>
<th>PATIENT NAME</th>
<th>UNIT</th>
<th>DATE ADMITTED TO MORGUE</th>
<th>TIME ADMITTED TO MORGUE</th>
<th>ADMITTED TO MORGUE BY (INITIALS)</th>
<th>PERSONAL EFFECTS WITH BODY (YES/NO)</th>
<th>FUNERAL HOME AND AGENT NAME</th>
<th>DATE BODY RELEASED</th>
<th>TIME BODY RELEASED</th>
<th>PERSONAL EFFECTS WITH BODY (YES/NO)</th>
<th>BODY RELEASED BY (INITIALS)</th>
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### APPENDIX

**LIFESPAN AMC, DEPT. OF PATHOLOGY**

**AUTOPSY SIGNOUT SCHEDULE**

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<tr>
<th>AUTOPSY NUMBER:</th>
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<tbody>
<tr>
<td>PATIENT NAME:</td>
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</tr>
<tr>
<td>DATE/TIME OF AUTOPSY:</td>
<td>___________________________</td>
</tr>
<tr>
<td>PROSECTOR:</td>
<td>_______________________________</td>
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<tr>
<td>PATHOLOGIST:</td>
<td>_______________________________</td>
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<table>
<thead>
<tr>
<th>DATE COMPLETED</th>
<th>SECTIONS OF AUTOPSY</th>
<th>REQUIRED COMPLETION</th>
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<tr>
<td></td>
<td>PRELIMINARY ANATOMIC DIAGNOSIS</td>
<td>&lt;48 HRS.</td>
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<tr>
<td></td>
<td>Type in Preliminary Anatomical Diagnosis field (Procedure Entry/Edit) (be certain your name and pathologists are entered)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CLINICAL SUMMARY</td>
<td>&lt; 7 DAYS</td>
</tr>
<tr>
<td></td>
<td>Type in Clinical Summary Field (Gross Entry/Edit)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GROSS DESCRIPTION</td>
<td>&lt; 7 DAYS</td>
</tr>
<tr>
<td></td>
<td>See Gross Protocol Form in Folder - Type in Gross field in the Gross/Block/Micro Description Template (Gross Entry/Edit)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TISSUE BLOCK SUBMITTED ENTRY IN COMPUTER</td>
<td>&lt; 7 DAYS</td>
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<td></td>
<td>See Gross Protocol Form in Folder - Type in Gross field in Gross/Blocks/Micro Description Template (Gross Entry/Edit)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>REVIEW CASE AND MICROSCOPIC SLIDES</td>
<td>&lt; 3 WEEKS</td>
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<tr>
<td></td>
<td>MICROSCOPIC DESCRIPTION</td>
<td>&lt; 4 WEEKS</td>
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<td>See Gross Protocol Form in Folder - Type in Gross field in Gross/Block/Micro Description Template (Gross Entry/Edit)</td>
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<tr>
<td></td>
<td>CASE DISCUSSION</td>
<td>&lt; 4 WEEKS</td>
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<td></td>
<td>Type in Case Discussion field (Final Entry/Edit)</td>
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<tr>
<td></td>
<td>FINAL DIAGNOSIS SEND TO PATHOLOGIST’S SIGNOUT WORKLIST</td>
<td>&lt; 4 WEEKS</td>
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<tr>
<td></td>
<td>If PAD is editable to use as FAD - copy PAD into Final Diagnosis field and edit as needed</td>
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</table>
APPENDIX

PATIENT NAME: ____________________________  AUTOPSY NO.: __________

AUTOPSY PATHOLOGY OUTLINE

(Use this worksheet to type the Clinical Summary in Copath C/S)

CLINICAL SUMMARY:

AGE:_________  ADMISSION DATE:_________

SEX:_________  DATE OF DEATH:_________  TIME OF DEATH:________

RACE:_________  DATE OF AUTOPSY:_________  TIME OF AUTOPSY:_____

REASON FOR ADMISSION:_____________________________________________________
__________________________________________________________________________

PAST MEDICAL HISTORY:_____________________________________________________
__________________________________________________________________________
__________________________________________________________________________

PATH REPORT NOS:_______________________________________________________

PHYSICAL EXAM:________________________________________________________
__________________________________________________________________________

CRITICAL LABORATORY & RADIOLOGIC FINDINGS:________________________________
__________________________________________________________________________

HOSPITAL COURSE:________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

CLINICAL DIAGNOSES:_______________________________________________________
__________________________________________________________________________
APPENDIX

AUTOPSY GROSS PROTOCOL

(Use this worksheet to type the Gross/Blocks/Micro in Copath C/S)

GENERAL HABITUS:

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<th>Development:</th>
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<td>Weight (est.):</td>
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<tr>
<td>Length:</td>
<td>cm.</td>
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<table>
<thead>
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<th>Eyes:</th>
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<thead>
<tr>
<th>Hair:</th>
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<tbody>
<tr>
<td>Ears, nose, throat:</td>
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<table>
<thead>
<tr>
<th>Chest:</th>
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<td>Within normal limits</td>
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<table>
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<th>Breasts:</th>
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<th>Abdomen:</th>
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<tr>
<td>Within normal limits</td>
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<table>
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<th>External Genitalia:</th>
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BODY CAVITIES:

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<td>Right ml, Left ml</td>
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<th>Vertebral Column:</th>
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<td>Within normal limits</td>
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</table>

Page 61
Femoral Venous Thrombi: _________________________

Comments:

**CARDIOVASCULAR SYSTEM:**

Heart: _______ g

Epicardium: ___________ Within normal limits

Lt. Ventricle: _______ cm.

Parenchyma:

Rt. Ventricle: _______ cm.

Parenchyma:

Atria: ___________

Foramen Ovale: _________

Coronary Artery Stenosis (Max. %): Valvular Circumferences:

Tricuspid: _______ cm.

Pulmonic: _______ cm.

Mitral: _______ cm.

Aortic: _______ cm.

Aorta: ______________________________

Vena Cava: ___________ Within normal limits

Comments: __________________________________

Blocks: A

**RESPIRATORY SYSTEM:**

Rt. Lung: _______ g

Parenchyma:

Lt. Lung: _______ g

Parenchyma:

Pulmonary Arteries: ______________________________

Trachea and Bronchi: ______________________________

Comments: __________________________________

Blocks: A
HEPATOBILIARY SYSTEM:

Liver: __________ g

Parenchyma:

Gallbladder: __________

Biliary Tract: __________

Comments: ____________

Blocks: A

PANCREAS:

Pancreas: __________ x x cm.

Parenchyma:

Pancreatic Duct: ______________________

Ampulla of Vater: __________ Within normal limits

Comments: __________________________

Blocks: A

GASTROINTESTINAL TRACT:

Esophagus: __________ Within normal limits

Stomach: __________ Within normal limits

Duodenum: __________ Within normal limits

Jejunum: __________ Within normal limits

Ileum: __________ Within normal limits

Ileocecal Valve: __________ Within normal limits

Appendix: __________ Within normal limits

Large Intestine: __________ Within normal limits

Comments:

Blocks: A

URINARY SYSTEM:

Rt. Kidney: __________ g; x x cm.
GENITAL SYSTEM:

Rt. Testis: 
  g; x x cm.
  Parenchyma:

Lt. Testis: 
  g; x x cm.
  Parenchyma:

Prostate: 
  x x cm.
  Parenchyma:

Comments: 

Blocks: A

OR

Rt. Ovary: 
  g; x x cm.
  Parenchyma:

Fallopian Tube: 
  x x cm.

Lt. Ovary: 
  g; x x cm.
  Parenchyma:

Fallopian Tube: 
  x x cm.

Uterus: 
  x x cm.
Cervix: ______ x cm.
Endocervix: ______ x cm.
Endometrium: ______ cm.
Myometrium: ___________
Vagina: ___________
Comments: ________________
Blocks: A

HEMATOPOIETIC SYSTEM:
Spleen: ______ g
Parenchyma:
Thoracic Lymph Nodes: ______ cm.
Abdominal Lymph Nodes: ______ cm.
Vertebral Bone Marrow: ______ Within normal limits
Thymus: ______________________________
Comments: ______________________________
Blocks: A

ENDOCRINE SYSTEM:
Thyroid Gland: ______ g
Parenchyma: ______ Within normal limits
Parathyroid Glands: ______________________________
Rt. Adrenal Gland: ______ g
Parenchyma: ______ Within normal limits
Lt. Adrenal Gland: ______ g
Parenchyma: ______ Within normal limits
Comments: ______________________________

NERVOUS SYSTEM:
Brain Weight: ______ g