We will be doing a lot of biomedical image processing during the course. Some of the activities will be designed to teach you how to process images in a variety of ways. Some activities will be part of problem-solving patient scenarios where you can put your new-found skills to work.

**PRINTABLES / DOWNLOADABLES:**

- **DATA SHEETS**
  Biomedical Imaging Data Sheet

**LESSON #: 7**

**LESSON TITLE:**

Autopsy of a Dill Pickle

**LESSON INTRODUCTION:**

An introduction unit is usually designed to give you an overview of a course's subject matter. One procedure that employs an overview in the field of anatomy and physiology is the autopsy. If you have been watching the numerous new crime-solving television shows, you have heard the word “autopsy” an un-countable number of times.
There are two general types of autopsies. The hospital (clinical) autopsy is most often performed to satisfy academic medical and educational interests. In a particular case it helps delineate the precise mechanism of death. The documentation becomes preserved in the medical record and is privy only to the next of kin or certain medical personnel by virtue of an extension of the concept of patient confidentiality.

In contrast, the forensic autopsy is done in the public interest and primarily benefits those outside medical circles. Its primary function is one of documentation to provide answers posed by family, friends, lawyers, insurance agents, courts, and physicians. Hence, the findings in a forensic autopsy, since it is done in the public interest, must be made more readily available to the public.

**SCENARIO NOTES:**

**COACH NOTES (IF APPLICABLE):**

**Coach:** This lesson requires a little imagination, but students in the past have really enjoyed doing an autopsy on a dill pickle. The purpose of the lesson is to teach them about autopsies, but it also is a good chance to use the anatomical terms learned in a previous lesson.

**SAFETY NOTICE (IF APPLICABLE):**

⚠️ You will need to use a knife to cut a “Y” incision in your pickle patient. Remember to handle the knife with care during both use and cleanup.

**SPECIAL INSTRUCTIONS (IF APPLICABLE):**

🔍 The students will need access to a digital camera so a picture can be taken of their work and sent to the instructor.

You will need the biggest dill pickle available at your local grocers.

**ACTIVITY CHECKLIST:** THIS WILL CORRESPOND EXACTLY TO THE UNIT CHECKLIST

- Activity Check List for Introduction Unit Week 2: Lesson 7
  - Do Autopsy of a Dill Pickle, Upload digital picture

**ACTIVITY:**
The usual hospital protocol contains a brief clinical summary, an external examination, an internal examination, and a summary of the autopsy findings. Many pathologists also conclude the report with a case summary for clinical/pathologic correlation. While the approach may be quite satisfactory in a clinical setting, it does not adequately meet the demands of the usual forensic situation. The forensic autopsy report should be devoid of opinion and interpretation and be restricted to the actual observations made of the body. Since the terminal events are generally not actually witnessed by the pathologist, the equivalent of the clinical summary becomes hearsay and does not reflect actual observations or knowledge of the case. The court should be allowed to draw its own conclusions.

Since a clinical/pathological correlation is based upon the opinion of the person doing the autopsy, it too is in the realm of unreliable data and therefore speculation. Hence, these two components of the autopsy protocol (clinical summary and conclusions drawn) should be eliminated in the report of a forensic autopsy.

The second recommended forensic modification is to break away from the systemic approach to the internal examination when dealing with a case involving traumatic injuries. This permits a more readable and cohesive report since one injury frequently involves more than one organ system. The easiest way to accomplish this is to interpose a section entitled "Evidence of Injury" between the external and internal examination sections. In this section, the wound is traced from its origin at the skin surface and through the internal structures.

The external examination section would then include only those features which were present before the injuries (such as scars and tattoos) and evidence of resuscitative attempts. Likewise, the subsequent internal examination section would be limited to the description of any natural disease process or changes related to resuscitative attempts.

**Autopsy Chart and Interpretation**

Because it is unlikely each of you has a chance to view an actual autopsy (or would want to), we are going to do an autopsy on a fictitious pickle patient. You will have to use your imagination, but going through the motions will help you remember the purpose and stages of an autopsy. Use CORRECT ANATOMICAL TERMINOLOGY in your autopsy report. Use as many of the terms we have studied as possible.

Performed by Dr.__________ , Coroner, on this day of _________, 200__
External Examination:
The exterior of the body (pickle) is examined for abnormalities such as wounds or scars from injuries. Draw both posterior and anterior views of your pickle, indicating your findings. Label the views.

Notes:

Internal Examination:
The ventral body cavity is opened by a deep Y-shaped incision. The arms of the Y start at the anterior surface of shoulders and join at the inferior point of the sternum to form a single cut that extends to the pubic area. Draw the pickle and the line of incision. After the ribcage is sawn through, the abdominopelvic region can be opened like hinged doors to expose the internal organs. The contents of the thoracic cavity will also be visible.
The second stage of the autopsy includes careful examination of many or all of the internal organs. If the brain is to be examined, a portion of the skull must be removed. The face, arms, and legs are usually not dissected unless there is a specific reason for doing so. Draw the pickle at this stage of the autopsy.

Notes:

Microscopic Examination and Testing:
After the organs are returned to their respective body cavities and the body is sewn up, the third phase of the autopsy begins. It is a microscopic examination of tissues collected during the first two stages. Tests to analyze the chemical content of body fluids or to determine the presence of infectious organisms may also be performed.

Notes:

<table>
<thead>
<tr>
<th>Summary of Autopsy Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your finding about cause of death of this patient? Support your opinion with specific details from the autopsy.</td>
</tr>
</tbody>
</table>

Take a digital picture of your pickle and your autopsy report and upload the picture to me. Also upload the report itself so I can evaluate your use of anatomical terms.

**PART # (IF APPLICABLE):**

**TOOLS (IF APPLICABLE):**

Digital Camera

**DISCUSSION/COLLABORATION INSTRUCTIONS (IF APPLICABLE):**

**KNOWLEDGE CHECK (IF APPLICABLE):**

**CHECK IT OUT (IF APPLICABLE):**

**TEST (IF APPLICABLE):**

**END NOTES:**
Now that you have a little practice with applying some concepts of anatomy and physiology during a pickle autopsy, you are going to take a look at some real autopsy issues. Remember to think using correct anatomical terms while working through the autopsies.

**PRINTABLES / DOWNLOADABLES:**

- **DATA SHEETS**
  Autopsy Chart and Interpretation

**LESSON #: 8**

**LESSON TITLE:**

Autopsy

**LESSON INTRODUCTION:**

The dictionary defines an autopsy as a surgical procedure, postmortem, which involves the examination of body tissues, often to determine cause of death. Without the TV cameras rolling, it becomes a search for information. The body is able to be read for clues. Knowledge of the normal structure of the human body would be a necessity for someone looking for abnormalities.

**SCENARIO NOTES:**

**COACH NOTES (IF APPLICABLE):**

*Coach:* The student will need to read autopsy results written in anatomical terms and translate it into layman’s terms. Remind them to work digitally. Thanks!

**SAFETY NOTICE (IF APPLICABLE):**

**SPECIAL INSTRUCTIONS (IF APPLICABLE):**

**ACTIVITY CHECKLIST:** THIS WILL CORRESPOND EXACTLY TO THE UNIT CHECKLIST

*Activity Check List* for Introduction Unit Week 2: Lesson 8