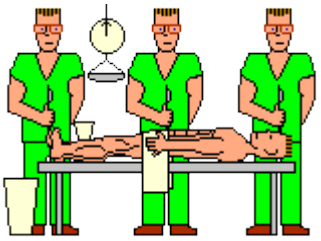
TÉCNICA DE AUTOPSIA

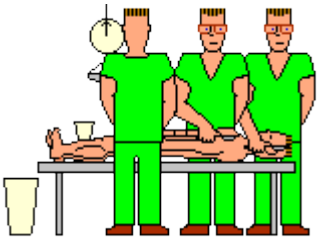


Here's how an autopsy is done. In this example, there are three pathologists working together.

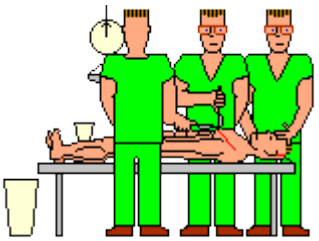
The body has already been identified and lawful consent obtained.

The procedure is done with respect and seriousness. The prevailing mood in the autopsy room is curiosity, scientific interest, and pleasure at being able to find the truth and share it. Most pathologists choose their specialty, at least in part, because they like finding the real answers.

Many autopsy services have a sign, "This is the place where death rejoices to help those who live." Usually it is written in Latin ("Hic locus est ubi mors gaudet succurrere vitae"). Autopsy practice was largely developed in Germany, and an autopsy assistant is traditionally honored with the title "diener", which is German for "helper".



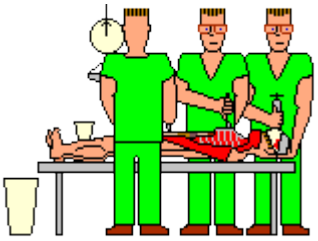
The pathologist first examines the outside of the body. A great deal can be learned in this way. Many pathologists use scalpels with rulers marked on their blades.



The body is opened using a Y-shaped incision from shoulders to mid-chest and down to the pubic region. If the head is to be opened, the pathologist makes a second incision across the head, joining the bony prominences just below and behind the ears. When this is sewed back up, it will be concealed by the pillow on which the dead person's head rests.

The pathologist uses a scalpel for these incisions. There is almost no bleeding, since a dead body has no blood pressure except that produced by gravity.

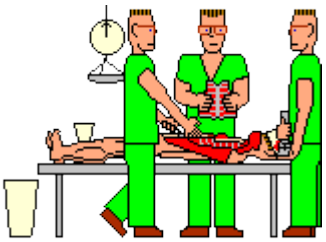
The incisions are carried down to the skull, the rib cage and breastbone, and the cavity that contains the organs of the abdomen. The scalp and the soft tissues in front of the chest are then reflected back. Again, the pathologist looks around for any abnormalities.



Here, one pathologist is preparing to open the skull, using a special vibrating saw that cuts bone but not soft tissue. This is an important safety feature.

Another pathologist is cutting the cartilages that join the ribs to the breastbone, in order to be able to enter the chest cavity. This can be done using a scalpel, a saw, or a special knife, depending on the pathologist's preferences and whether the cartilages have begun to turn into bone, as they often do in older folks.

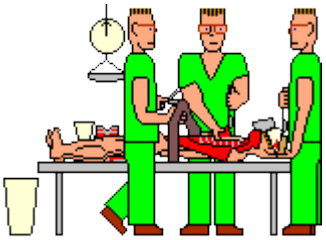
The third pathologist is exploring the abdominal cavity. The first dissection in the abdomen is usually freeing up the large intestine. Some pathologists do this with a scalpel, while others use scissors.



The skull vault is opened using two saw cuts, one in front, and one in back. These will not show through the scalp when it is sewed back together.

When the breastbone and attached rib cartilages are removed, they are examined. Often they are fractured during cardiopulmonary resuscitation.

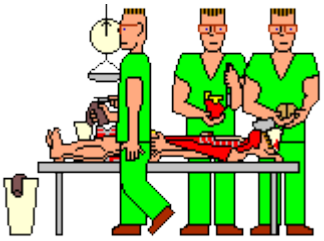
Freeing up the intestine takes some time. The pathologist in this picture is cutting along the attachment using a scalpel.



The top of the skull is removed, and the brain is very carefully cut free of its attachments from inside the skull.

The chest organs, including the heart and lungs, are inspected. Sometimes the pathologist takes blood from the heart to check for bacteria in the blood. For this, he/she uses a very large hypodermic needle and syringe. The pathologist may also find something else that will need to be sent to the microbiology lab to search for infection. Sometimes the pathologist will send blood, urine, bile, or even the fluid of the eye or samples of brain and/or liver for chemical study and to look for medicine, street drugs, alcohols, and/or poisons.

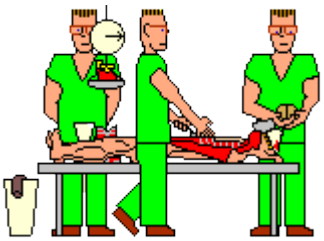
Then the pathologist must decide in what order to perform the rest of the autopsy. The choice will be based on a variety of considerations. This team will use the method of Virchow, removing organs individually. After the intestines are mobilized, they may be opened using special scissors.



Inspecting the brain often reveals surprises. A good pathologist takes some time to do this.

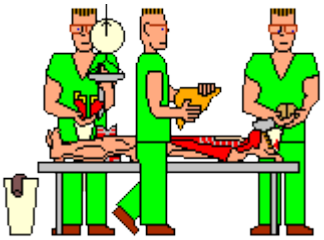
The pathologist examines the heart, and generally the first step following its removal is sectioning the coronary arteries that supply the heart with blood. There is often disease here, even in people who believed their hearts were normal.

After any organ is removed, the pathologist will save a section in preservative solution. Of course, if something looks abnormal, the pathologist will probably save more. The rest of the organ goes into a biohazard bag, which is supported by a large plastic container.



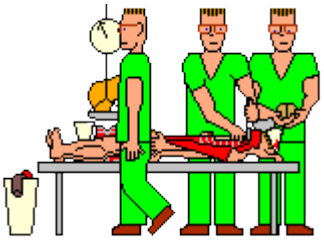
The pathologist weighs the major solid organs (heart, lungs, brain, kidneys, liver, spleen, sometimes others) on a grocer's scale. The smaller organs (thyroid, adrenals) get weighed on a chemist's triple-beam balance.

The next step in this abdominal dissection will be exploring the bile ducts and then freeing up the liver. Again, this pathologist has decided to use a scalpel.



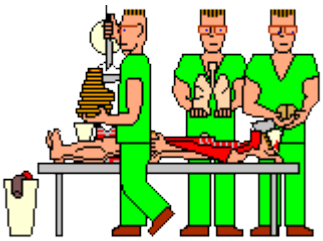
After weighing the heart, the pathologist completes the dissection. There are a variety of ways of doing this, and the choice will depend on the case. If the pathologist suspects a heart attack, a long knife may be the best choice.

The liver has been removed. The pathologist has found something important. It appears that this man had a fatty liver. It is too light, too orange, and a bit too big. Perhaps this man had been drinking heavily for a while.



The pathologist has decided to remove the neck organs, large airways, and lungs in one piece. This requires careful dissection. The pathologist always examines the neck very carefully.

The liver in this case weighs much more than the normal 1400 gm.

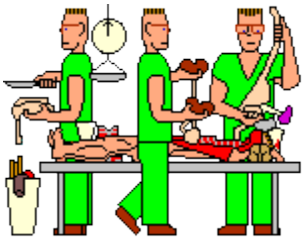


The lungs are almost never normal at autopsy. These lungs are pink, because the dead man was a non-smoker. The pathologist will inspect and feel them for areas of pneumonia and other abnormalities.

The liver is cut at intervals of about a centimeter, using a long knife. This enables the pathologist to examine its inner structure.

The pathologist weighs both lungs together, then each one separately. Afterwards, the lungs may get inflated with fixative.

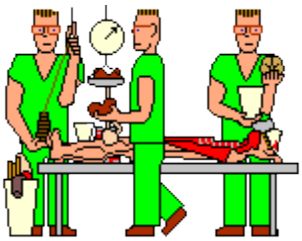
The rest of the team is continuing with the removal of the other organs. They have decided to take the urinary system as one piece, and the digestive system down to the small intestine as another single piece. This will require careful dissection.



One pathologist is holding the esophagus, stomach, pancreas, duodenum, and spleen. He will open these, and may save a portion of the gastric contents to check for poison.

Another pathologist is holding the kidneys, ureters, and bladder. Sometimes these organs will be left attached to the abdominal aorta. The pathologist will open all these organs and examine them carefully.

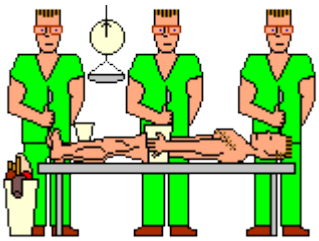
Dissecting the lungs can be done in any of several ways. All methods reveal the surfaces of the large airways, and the great arteries of the lungs. Most pathologists use the long knife again while studying the lungs. The air spaces of the lungs will be evaluated based on their texture and appearance.



Before the autopsy is over, the brain is usually suspended in fixative for a week so that the later dissection will be clean, neat, and accurate. If no disease of the brain is suspected, the pathologist may cut it fresh.

The kidneys are weighed before they are dissected.

It is the pathologist's decision as to whether to open the small intestine and/or colon. If they appear normal on the outside, there is seldom significant pathology on the inside. I usually open them. The last pathologist is preparing the big needle and thread used to sew up the body.



When the internal organs, have been examined, the pathologist may return all but the tiny portions that have been saved to the body cavity. Or the organs may be cremated without being returned. The appropriate laws, and the wishes of the family, are obeyed.

The breastbone and ribs are usually replaced in the body. The skull and trunk incisions are sewed shut ("baseball stitch"). The body is washed and is then ready to go to the funeral director.