



# Peripheral Equipment Use

Welch Allyn ENT Scope

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## Learning Objectives

Upon completion of this chapter, you will be able to:

- Identify the ENT Scope components
- Demonstrate how to switch from the main videocamera to the ENT Scope view
- Demonstrate the proper use of the ENT Scope and its functionality
- Identify basic troubleshooting issues and resolution and articulate how to contact the OTN Service Desk
- Demonstrate the ability to properly clean the ENT Scope
- Articulate the guidelines for using the ENT Scope in a clinical setting

## Duration

This chapter should take approximately 30 minutes to complete.

## Legend



Reminder



Key Tips



Reference to Other Materials



Web / E-mail Address



Phone / Fax Number

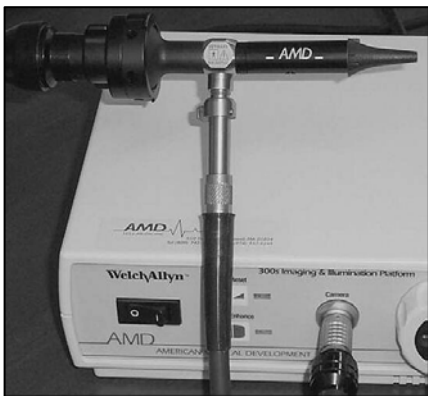
## Part 1: Equipment Use

## 1.1 ENT Scope Components

An ENT Scope is a medical device made up of several parts, all designed for visualizing the ear, nose, and throat. During a videoconference, light and camera cables are connected to the ENT scope to produce an image of an ear, nose, or throat and then converted into a video signal and sent to a specialist for examination. The following are the major components for the Welch Allyn ENT Scope.



**The Light Box:** The Light Box is used to create light, which is sent through the Light Cable, into the ENT Scope.



**The Barrel:** The barrel is made up of lenses inside the unit, and connected by a light and camera cable. The barrel is the main part of the ENT scope. The tip is inserted into the ear, nose, or throat and is protected by a disposable specula.

**The Coupler:** The coupler connects the barrel to the head of the camera cable. A lever indicated with 'open' or 'tighten' can be pressed to connect or disconnect the barrel from the cable.

**The Camera Cable:** The camera cable transmits the image created from the scope to the Light Box.

- The camera head (the larger end) connects to the scope.
- The connector end (the smaller end) connects to the camera port on the front of the Light Box.

**The Light Cable:** The light cable sends light from the light box to the ENT scope.

- The larger end connects to the light post of the ENT Scope.
- The smaller end connects to the port in the centre of the intensity ring located on the front of the Light Box.

**The s-video Cable:** The s-video cable carries images from the light box to the videoconferencing system.

- The four prongs must be properly connected to get an image.
- The s-video cable connects to the back of the Light Box.

## 1.2 Preparing the ENT Scope for a Session

The following steps outline the initial procedure required to prepare the ENT Scope for use.



**Ensure the components are properly connected:** The ENT Scope components should already be connected. Ensure that the proper connections have been made:

- The camera cable should connect the ENT Scope with the Light Box (the camera head – the larger end - connects with the scope and the connector – the smaller end - connects to the port on the front of the Light Box).
- The light cable should connect the ENT Scope with the Light Box (the larger end should connect to the light post on the ENT Scope and the smaller end should connect to the port in the centre of the intensity ring on the Light Box).
- The s-video cable should connect the Light Box to the videoconference system.

**Attach the Disposable Speculum to the ENT Scope tip:** Before using the ENT Scope, first attach the disposable speculum to the tip on the scope. For each patient, a new disposable speculum is required:

- The disposable speculum units must be 4mm. Use part No. 52434 – this is the Welch Allyn 4mm disposable speculum. Smaller disposable reusable specula and Welch Allyn reusable specula do not work optimally with the scope.

**Turn on the Light Source Unit:** The light source unit switch is located on the left-hand side of the Light Box:

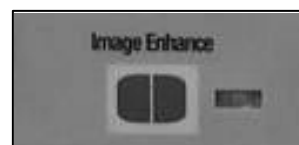


- To turn the unit on, select ON (I).
- To turn the unit off, select OFF (O).
- Ensure that the light source unit is switched off when not in use as it produces a lot of heat.

**Adjusting the White Balance:** The white balance refers to the correctness of color reproduction under various lighting conditions. The color reset button on the Light Box is used for white balancing the scope. To adjust the white balance:



- Hold the scope over a white piece of paper, approximately ½ inch away, and press and hold the Color Reset button until the button stops flashing.



**Enhancing the image:** The image enhance feature is used to produce sharper and clearer images on screen.

- To activate this feature, press the Image Enhance button.
- The indicator light to the right of the button will be lit

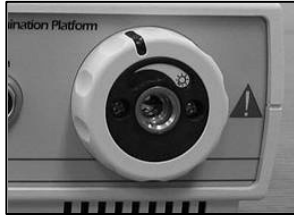
when the Image Enhance button is active.

**Switch to the ENT Scope view:** Switch from the main videoconference camera to the ENT Scope camera by selecting the input device using the videoconference system remote control. For single monitor systems, you will need to switch the picture-in-picture (PiP) view.

- iDoc Systems: Push the “Camera” button to bring the three input icons onscreen. Use the arrow keys to select the #2 (Document Camera) icon and press “Select” to ready the monitor to receive input from the scope. Make sure that the switchbox at the side of the iDoc has been set to ENT Scope.
- Tandberg Systems: Select the “Aux” camera view button located at the top of the remote control.

## 1.3 Operating the Equipment

The following items represent some of the basic operating features of the ENT Scope.



**Adjusting the Light Intensity:** The light intensity control knob is located around the outside of the light cable connector (the right side of the Light Box). The intensity ring controls the amount of light in the scope:

- To decrease the light intensity, turn the knob counter-clockwise (to the left)
- To increase the light intensity, turn the knob clockwise (to the right)



## 1.4 Troubleshooting

The following troubleshooting tips could help to solve some of the more common issues that may arise when using the ENT Scope.

### No Image

If there is no image onscreen, this may be the result of the scope not being on the correct camera setting or the s-video cable not being properly connected. To correct:

- Ensure that the ENT Scope setting on the switch box (located on the side of the clinical cart) is selected.
- Make sure that all cables are securely connected.

### Poor Quality of Image

A poor quality of image could be the result of the scope being dirty, not focused, or requiring an image enhancement. To correct, try one (or all) of the following:

- Clean all outer parts of the scope between patients.
- Adjust the image using the focus ring located on the coupler.
- Activate the image enhance button on the Light Box.

### No Color

No color on screen is usually a result of the s-video cable being improperly connected. To correct:

- Check that both ends of the s-video cable are securely plugged into the Light Box.
- Ensure that both ends of the s-video cable have 4 upright pins that are not bent or broken.



*For any additional issues that cannot be addressed using these troubleshooting tips, please contact the OTN Service Desk at 1-866-454-OTN1 (6861).*

## 1.5 Cleaning the Equipment

Please take the following steps to ensure that the ENT Scope is properly cleaned.



**Cleaning the equipment:** Ensure that the ENT Scope is properly cleaned as per your organization's specific cleaning and sterilization procedures. In addition, the following tips have been provided:

- Change the disposable speculum cover after each exam
- The speculum holder is removed by turning it counter-clockwise (to the left) one complete rotation.
- The scope surface and lenses can be cleansed using a cloth moistened with a mild detergent.
- To disinfect, wipe with alcohol or by soaking it in a glutaraldehyde solution as per the manufacturer instructions.

## Part 2: Clinical Application

## 2.1 Using the ENT Scope in a Clinical Setting

The following guidelines have been developed for using the ENT Scope in a clinical setting.

### Preparation

- Arrange the furniture in the room so that you can easily see your own image on your monitor. Have a chair positioned for the patient in such a way that you can check both ears with the equipment without tripping over cables from the platform. Check to ensure you are sending a good image to the Consultant. Check light intensity setting is appropriate. Adjust if necessary.
- It may be easier for the nurse to also be seated for the exam to provide a steady image. This will minimize motion and improve the quality of the image transmitted.
- Anticipate the areas on the patient's body that will require close-up examination prior to the start of the consultation and prepare the sites for easy viewing when the patient arrives.
- Test the equipment prior to use in a clinical setting – the equipment can be quite tricky to focus and should not be adjusted using the patient as your test subject.

### Using the ENT Scope

- For proper camera orientation, always make sure that the white dot on the camera head is facing upwards
- Use the main camera on the telemedicine workstation at the start of the consultation. Switch to the ENT Scope when a close-up image is required.
- The consultant will guide you through the exam stating what image he/she wishes to see next (ears, nose, and throat).
- If the patient is young, a parent or staff should assist in holding the patient's head so that the image can be obtained without harming the patient (if obtaining images of the ear) or it looking at nasal images – that the patient is able to have some head support (high chair back or chair near wall) again so that image can be obtained without incurring harm.
- Allow time to focus one image before moving onto the next.
- Remember with the brief time delay over videoconference, moving the camera too quickly doesn't allow for proper focus at the remote site. If you move too quickly, the image is blurred. Ask the Consultant to provide verbal prompts when s/he is ready for you to change the image.
- Turning the lights in the room off at the consultant site may help to enhance the image the consultant sees at his/her site.
- For throat exams, you may need the use of a tongue depressor.