Histology Guide - User Guide

Version 1.1

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1. Introduction

Welcome to Histology Guide

Histology Guide is an innovative digital learning platform designed to teach users how to identify cellular and tissue structures and understand how these relate to biological function. Unlike traditional textbooks or atlases, which present static content, this interactive platform helps you to develop interpretation skills through hands-on exploration of high-resolution microscopic specimens.

Learning Philosophy

Rather than simply reproducing textbook information, *Histology Guide* is focused on helping you:

- **Recognize** cellular and tissue patterns under microscopic examination
- **Interpret** structural features in relation to their biological roles
- **Develop** visual pattern recognition skills essential for mastering histology

Virtual Slide Box

The platform includes a curated collection of over 300 high-resolution scanned microscope slides covering all major histology topics. Each slide can reach up to 32 GB in size, with resolutions up to 150,000 x 75,000 pixels. This allows for broad overviews at low magnification and detailed cellular examination at high magnification,

2. Platform Overview

Interactive Learning Components

Every slide includes:

- **Detailed Descriptions**: Annotations explaining key features
- **Region Highlights**: Specific areas of interest with targeted explanations

- **Functional Correlations**: Insights connecting structure with function

Slide Viewer

The viewer consists of three main areas:

- **Image Viewer**: Central display area showing the microscope slide
- **Sidebar**: Interactive panel with descriptions and navigation links
- **Toolbar**: Tools for magnification, navigation, and feature control

3. Navigation Controls

Mouse-Based Navigation

- **Click**: Zoom in at that clicked location
- **Double-Click**: Zoom out
- **Click and Drag**: Pan around the image at the current magnification

Keyboard Navigation

- **A**: Zoom in
- **Z**: Zoom out
- **Arrow Keys**: Pan in all directions

Toolbar Controls

- **Zoom Level**: View current magnification and access quick zoom presets
- **Zoom In/Out Button**: Adjust magnification incrementally
- **Zoom Slider**: Click and drag the thumb to smoothly change magnification
- **Fit to Screen**: Reset the view to fit the image within the window
- **View Size**: Displays the current view
- **WayPoints Button**: Open the WayPoints menu
- **Pointer Button**: Open the Pointer menu

Navigation Panel

Located in the upper-left corner of the image viewer. When zoomed in, a box represents the current view. Click and drag the rectangle to quickly explore different regions.

4. Saving and Sharing

The current view is automatically encoded in the webpage URL, enabling easy bookmarking and sharing.

Creating Bookmarks

- **Navigate** to your desired view
- **Use** Ctrl+D (Windows) or Cmd+D (Mac) to create bookmark

- **Name** the bookmark reflecting the slide and structures
- **Select** a bookmark folder for organization
- **Save** for future access

Sharing URLs

1. Copy the URL from the browser address bar
2. Paste it into emails, documents, or learning management systems
3. Provide context for what viewers should observe

Social Media Sharing

1. Click the **Share** button in the title bar
2. Select your preferred platform

5. WayPoints

WayPoints are interactive markers that let you save specific locations on a slide for instant recall. As you explore a slide, you can mark multiple points of interest and easily jump between them as needed.

While WayPoints don't persist once you leave a slide, they are embedded in the URL and can be saved or shared. With this feature, you can create comprehensive slide reviews, personalized study guides, and easily share annotated slides with others.

Creating WayPoints

1. Navigate to the desired slide location
2. **Right-click** on the image to place a WayPoint

Navigating with WayPoints

1. Click on a WayPoint to jump to its location
2. Use the **WayPoint Toolbar Menu** to view all options
3. Press the **Tab** key to move to the next WayPoint
4. Press **Backspace** to return to the previous one

WayPoints Options

Access the WayPoints menu by clicking on the WayPoint icon in the toolbar:

- **Show/Hide All**: Toggle visibility
- **Go to Next/Previous**: Navigate through WayPoints
- **Zoom Out to Reveal**: View all WayPoints at once
- **Delete All**: Remove all WayPoints

Customizing WayPoints

If you plan to create permanent links with WayPoints, the text shown in the tooltip and its color can be changed for individual WayPoints.

Adding Descriptive Text:

1. Hover over the WayPoint to view the tooltip
2. Click on the tooltip
3. Type your custom text and press **Enter**

Changing WayPoint Color:

1. Right-click a WayPoint
2. Choose a color from the menu

6. Pointer

The **Pointer** marks a fixed reference point on a slide that stays at the same location regardless of zoom level or pan position. This is especially useful for:

- **Teaching**: Highlighting key structures
- **Collaboration**: Sharing specific locations
- **Self-Study**: Marking structures for focused examination

Using the Pointer

1. Click the **Pointer** icon in the toolbar
2. Select **Show Pointer** from the menu
3. Drag to the desired location
4. The coordinate window will display its exact location
5. Pan and zoom freely while the pointer stays fixed

Pointer Toolbar Button

The Point toolbar button provides several useful functions:

- **Show/Hide**: Toggle visibility
- **Go to**: Jump to pointer location
- **Zoom Out to Reveal**: decrease zoom until the pointer is visible
- **Move to Center**: Center the pointer in the viewport
- **Show Coordinates**: Toggle visibility of coordinate information

Pointer Customization

Manual Positioning:

- Enter X/Y coordinates in the coordinate window

Changing Color:

- Right-click the pointer to select a new color from the menu

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