HistoIQ: Histology Training for Sales Professionals Course Overview

The HistoIQ: Histology Training for Sales Professionals is intended to provide foundational knowledge about the histotechnology process and the histology profession to those working in industry sales, marketing, or other non-bench related areas. The program is also intended for "first line" customer support staff. The program consists of the following learning modules: Customer Success Insights, Tissue ID, Fixation, Grossing, Processing, Embedding, Microtomy, Staining, H&E Staining, Special Stains, Microscopy, Basics of Immunohistochemistry, Introduction to Advanced Topics (Molecular and Digital Pathology). To see all learning objectives, please refer to the content outline.

This program requires participants to complete all of the assigned learning videos, assignments, discussions, and assessments.

Lecture/Webinar Hours: ~13 hours
Assignment/Assessment Hours: ~2 hours

Program Outline and Learning Objectives

MODULE	LEARNING OBJECTIVES
Module: Customer Success Insights	• Analyze your active listening skills. • Describe the importance of understanding your customer's needs through subject matter understanding. • Understand the challenge of time that laboratory managers face.
Module: Tissue ID	• Understand the basic tissue types and their purpose • Describe basic morphology of the 4 tissue types
Module: Fixation	• Define fixation • Determine and apply correct fixatives for requested procedures • Explain the theory and purpose of fixation in the histology process • Identify commonly used reagents (formalin, alcohol, and alcohol in relation to smears) • Identify poorly fixed tissue • Analyze variables that affect fixation • Model proper storage and use of fixatives • Make use of basic safety considerations in relation to fixation
Module: Grossing	• Understand the basic safety consideration in relation to grossing • Explain theory and purpose of grossing as it relates to the histology lab • Experience grossing (live or virtually) • Define grossing • Explain the importance of sample selection and how it correlates to specimen orientation at embedding
Module: Processing	• Understand what appropriate degree of decalcification

Questions? Contact NSH Education Director, Connie Wildeman, histo@nsh.org or 443-535-4060.
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	• Identify appropriate processing protocol for each kind of tissue • Select appropriate processing time • Identify use cases for commonly used reagents (paraffin, xylene, alcohol) • Explain processing its theory and purpose (e.g how issues experienced later could be related to processing) • Define processing • Explain the purpose of decalcification • Understanding and properly maintaining your tissue processors. • Identify under processed tissues • Identify basic issues related to processing • Recognize proper use and maintenance of processing solutions • Compare paraffins and explain why someone may choose one paraffin over another • Make use of basic safety considerations in relation to processing
Module 04: Embedding:	• Determine correct mold size for the specimen being embedded • Define embedding • Explain the theory and purpose of embedding • Maintains accurate identification of the specimen • Determine proper tissue orientation • Recognize proper use and maintenance of embedding paraffin (e.g. temperature) • Relate why paraffin may be different in embedding than it is in processing • Understanding and properly maintaining your embedding centers • Make use of basic safety considerations in relation to embedding
Module: Microtomy	• Selects correct procedures regarding section thickness and number as defined in procedures • Define microtomy • Distinguish between acceptable vs. unacceptable sections (activity online) • Explain the theory and purpose of microtomy • Recognize proper tissue orientation and facing in order to obtain a representative section • Identify why artifacts and other issues may be related to microtomy (not all inclusive, but basic examples) • Understanding and properly maintaining your microtome • Comparing slides and explain why someone may choose one slide over another • Make use of basic safety considerations in relation to microtomy
Module: Staining	• Explain theory and purpose of staining

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	• Define staining • Compare the different methods of staining in the histology lab • Recognize the terminology of different stains (Special nuclear and cytoplasmic stains, enzymes, polychrome) • Determine correct mounting medium for each type of slide/stain in order to insure maintenance and quality of the finished slide • Recognize proper use and maintenance of stains and solutions • Make use of the basic safety consideration in relation to staining
Module: The H&E:	• Purpose and theory of H&E • Explain the stains and chemicals used in the H&E protocol - types of hematoxylins, eosins, differentiator solutions, bluing solutions, deparaffinization (xylene, alcohol, water), dehydration (alcohol, xylene) • Identify acceptable vs unacceptable staining • Interpret common issues with staining • Analyze the steps of the H&E staining process • Compare regressive and progressive staining • Recognize proper use and maintenance of staining and other solution(s)
Module: Special Stains	• Justify the use of special stains (include list here – also cross reference with existing resources from the learning library – i.e. connective tissue, etc. Use of controls on special stains • Outline the basic steps in commonly used special stains (e.g. congo red, PAS-Jones, Steiner-spriochete) • Recognize proper use and maintenance of staining and other solution(s) required in staining procedures • Understand the basic safety consideration in relation to special stains
Module: Microscopy	• List the steps in kohler illumination • Identify the basic parts of a light microscope • Identify the purpose of different types of microscopes (fluorescent microscope, light, electron, polarizing) • Explain how to properly maintain your microscope • Understand the basic safety consideration in relation to microscopy.
Module: Immunohistochemistry	• Summarize basic antibodies • Explain the importance of preanalytics. • Identify causes of common IHC staining problems in including the importance of preanalytics • Understand the basic safety considerations in relation to IHC staining

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Module: Advance Topics (Digital Pathology and Molecular)	• Explain the role of the histotech in digital pathology • Summarize the development of digital pathology. • Identify how molecular testing applies to the histotech • Explain how the histotech is involved in molecular testing.

Learning Module Formats:

- OnDemand didactic training that aligns with articulated Learning Objectives with assessment to measure content knowledge (~60-70% of program).
- Content is presented in various formats including webinars, interactive assessments and activities including discussion posts.
- NSH will provide a subject matter preceptor to help provide technical guidance and feedback to active participants on assessments, discussion forums, and individual questions.

Continuing Education Credits

The HTP also qualifies for NSH continuing education credits. To successfully complete this program, participants are required to complete all assignments, knowledge checks, knowledge assessments, discussions, live session, live Q/A session.

Upon completion of the HTP participants will receive 15 CEUs on their CE Transcript with NSH. *Please note,* activity and assessment hours are estimated and may take a participant a little more or little less time based on individual learning pace.

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Certificate of Completion

After completing the course participants will be asked to complete a course survey. Upon completion of the course survey the participant will be able to print their Certificate of Completion.

Course Faculty

The HTP was developed by the NSH in conjunction with several subject matter experts who contributed their time and knowledge to this important program. On behalf of NSH we would like to thank and acknowledge the great work they have done.

Curriculum Development & Review Team

- Elizabeth Chlipala, HTL(ASCP)QIHC
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- Kim Feaster, HTL(ASCP)
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Faculty

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