

MICROTIME

The Georgia Society for Histotechnology

Issue 4

WINTER 2014

INSIDE.....

President's Letter	Page 2
GSH Nominations & Form	Page 4 & 5
HISTOPALOOZA! Lineup	Page 6
Tendons Overlooked Article	Page 7-12
Membership Renewal Info	Page 13
Officer's Contact List	Page 15

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CONTACT
INFORMATION

Histopalooza!

2015

Legacy Lodge
At Lake Lanier

President's Letter....

I hope everyone has enjoyed a safe and healthy holiday season. As we embark in this new year, please "save the date" for HISTOPALOOZA! 2015 at Lake Lanier Islands. The BOD will host another symposium and have finalized speakers and topics. The speakers are: Jim and Theresa Burchette, Joe Myers, Vinnie DellaSperanza, Skip Brown, Bill DeSalvo, Liz Chlipala, Ely Klar, and Chad McMahon We will cover reviews, IHC, management, microscopic anatomy, molecular, FISH, safety, and digital pathology.

We would like to send best wishes to our education chair, Carl Sagasser, who has relocated back to Ohio. We appreciate the many contributions to the GSH and also to our Region, as the director of the one remaining school of histotechnology in Georgia. Welcome to his replacement as education chair, Taiquanda Winbush, who will also be the new director at Darton College.

Please consider contributing an article to our newsletter. Our membership is free and we encourage you to contact our editor, Amanda Knowles, and she will guide you with your ideas.

If any member that works in the state of Georgia would like to chair a committee and be on a committee please contact me and we will definitely welcome YOUR talents.

Warm Regards,

Wanda K Simons, HT(ASCP)

GSH President



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BOC Study Guide - Histotechnology Certification Exams (NEW!) by Freida L Carson, PhD, MASCP, HT(ASCP)
Glenda F Hood, MEd, HT(ASCP)

Applicants preparing for the Board of Certification examinations in HT and HTL will find valuable assistance in this handy guide. The Study Guide covers all areas encountered on the exam, including fixation, processing, microtomy, staining, and laboratory operations.

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for Histotechnology**



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HISTOPALOOZA! 2015

Georgia Society for Histotechnology
Legacy Lodge at Lake Lanier Islands
April 17~19, 2015

www.histosearch.com/gsh/
watch for registration soon

Florida Society

May 14~17, 2015

Don't forget! March 10th is..



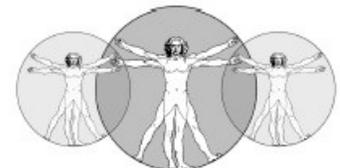
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2015 GSH Awards & Scholarship Nomination Form

**The awards committee is accepting nominations for the 2015 GSH Awards.
Nominations are due by March 7, 2015.**

Recognize your coworkers or friends who have shown dedication to our field by nominating them for an award.

A short letter of recommendation from the nominee's supervisor/pathologist is also required. The letter of recommendation may be sent separately, but must be received by the deadline, for your nominee to be considered for an award.

GSH Histotechnologist of the Year

Eligibility Requirements:

- Must be a current GSH member
- Must live and work in the state of Georgia

The Histotechnologist of the Year award is given annually to a member who, in the opinion of the Awards Committee, best exemplifies the qualities of dedication and service to the profession of Histotechnology. The recipient will be awarded \$100.

GSH Holde Puchtler Student Award

Eligibility Requirements:

- Must be a current GSH member
- Enrolled in an approved School of Histotechnology and graduating the current year

The GSH Holde Puchtler Student Award is given to a deserving student that exemplifies academic ability and outstanding qualities in histological techniques. The \$250 monetary reimbursement award is to be used exclusively to attend a GSH, NSH or Region III meeting and will expire 2 years after award presentation. The student will be refunded up to \$250 on providing original receipts for that meeting.

IHC/Molecular Scholarship

Eligibility Requirements:

- Must be a current GSH member
- Must live and work in the state of Georgia
- Must currently perform IHC or molecular studies

The IHC/Molecular Scholarship is given to a member that is a top performer (as recognized by their peers) in the area of IHC/molecular testing in the profession of Histotechnology. A \$250 monetary reimbursement award is to be used exclusively to attend IHC or molecular course/workshop and will expire 2 years after award presentation. The recipient will be refunded up to \$250 on providing original receipts for the course/workshop attended.

Submit by mail or email to:

Cindy Baranowski
GSH Awards
1551 Greyfield Trace
Snellville, GA 30078
or

GSHawards@gmail.com

NOMINATOR

Name: _____

Address: _____

Phone: _____

NOMINEE

Name: _____

Address: _____

Award for nomination: _____

Years in Histology _____

For Student Award: Histology School _____ Graduation Date _____

Brief description of qualities and contributions:

Letter of recommendation from supervisor or pathologist. Attached _____ To be sent separately _____

HISTOPALOOZA

April 17-19, 2015



Lanier Islands Legacy Lodge

HT/HTL REVIEW

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HISTOPALOOZA - The annual symposium of The Georgia Society for Histotechnology will be held at the tranquil Lake Lanier Islands Legacy Lodge. Located just one hour north of Atlanta, Georgia, This beautiful resort is surrounded by one of the most impressive lakes in the country. Filled with adventures, relaxation, nature and fun, Legacy Lodge is the perfect location to host an education experience unlike any other.



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Vendors will be available to demonstrate the latest technologies available in Histotechnology

Tendons: Overlooked and Underestimated

Vicki L. Kalscheur, HT (ASCP)

Amanda Ritzman, Animal Science

Molly VanBommel, BA

Comparative Orthopaedic Research Laboratory

University of Wisconsin, School of Veterinary Medicine

Madison, WI 53706, (608) 262-8534

email:kalschev@svm.vetmed.wisc.edu

Musculoskeletal diagnosis and treatment of the shoulder, hip, and knee are well documented. Less often studied is the role of the tendon. Tendons are tensile “straps” of collagen which have insertions that connect muscles to bone.

Tendons surrounded by a synovial sheath are termed avascular, while those surrounded by fatty or synovial material between the tendon and sheath are vascular. The elongated cylindrical structure of tendon is the densest form of collagenous supporting tissue, consisting of bundles of coarse collagen fibers among which are scattered rows of fibroblasts with elongated nuclei. Tendons are structurally adapted to withstand the constant strain the body subjects them to, whether lifting weights at the gym or reaching for a box of cereal on the top shelf.

Even though tendons are tough tissues, over time gradual wear can result in tiny tears that lead to tendon injury. Rehabilitation efforts target reducing the pain, stiffness, and loss of strength in the affected areas where tendon injury occurs.

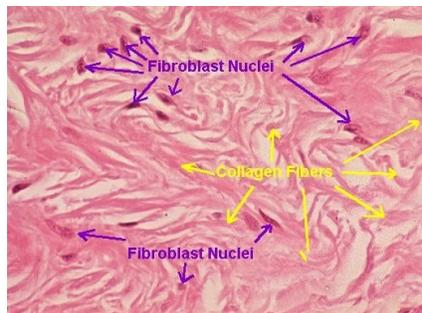


Figure 1: Tendon Histology H&E

What is a Tendon Injury?

There are two main descriptions relating to tendon injuries. **Tendinitis** means inflammation of the tendon, while **tendinosis** refers to tiny tears in the tissue in and around the tendon due to overuse. Anyone can have a tendon injury, it can be acute or chronic. An injury causes the separation of the supporting muscle from the bone. If the tendon is completely severed, the muscle can retract away from the bone and lead to the formation of a bulge beneath the skin. The four most common areas of tendon rupture include the quadriceps, rotator cuff, biceps, and Achilles tendon.

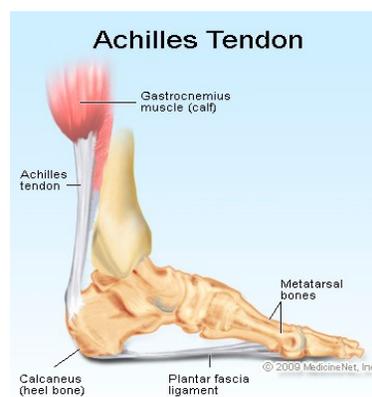


Figure 2: Anatomy of the Achilles Tendon

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Green Bay Packers' quarterback Aaron Rodgers is currently struggling with a painful tendon-muscle injury in a poorly vascularized region. In order to heal, weeks of rest, patience, and rehabilitation are necessary to recover and avoid re-injury. Like many athletes, he is determined to continue playing and is proactively being treated.

Common Symptoms:

Sharp, sudden pain that may be accompanied by a popping or snapping sound

Pain that worsens when using the tendon

More pain and stiffness occurs during the night or when you get up in the morning.

If there is inflammation, the area may be tender, red, warm, bruised, or swollen.

You may notice a crunchy sound or feeling when you use the tendon.

How are Tendon Injuries Treated?

Due to the increasing occurrence of tendon injury, orthopedic clinics and sports medicine centers are designing innovative treatments to promote the body's instinctive healing response to aid in avoiding invasive surgery.

Shock-wave therapy can be delivered through a handheld device placed directly against the body part. Needling as part of a prolotherapy procedure can provide long-term results by increasing the body's response to the site. Nitroglycerin patches and platelet injections have also been shown to reduce pain and stiffness as it promotes healing.

When tendon injuries are severe, surgical intervention may be necessary. Surgery is performed to minimize adhesion formation by placing sutures and knots so that minimal material is outside the tendon. Postoperatively, the affected area is often put into rigid immobilization to avoid excessive tension on the tendon and to allow proper vascular growth.

...Continued on page 10

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Tendon Histology

In our research lab at UW-Madison we have collaboratively worked on numerous studies involving tendon structure and function. Our work involves looking at metabolic activity and cell culture viability. Commonly used stains for tendon histology are Hematoxylin and Eosin, Safranin O, Alcian Blue, Van Gieson's Collagen Fiber stain, and Picrosirius Red stain (PSR). For immunohistochemistry we use select antibodies and prefer to use frozen cross sections for this methodology.

Tendon proteoglycan histochemistry is helpful in identifying the chief structural component of the tendon, type 1 collagen, whose strength and density is regulated by proteoglycans (PGs). Basically, proteoglycans are composed of a core protein to which one or more galactosamine-containing glycosaminoglycans are covalently attached. Tendon research is complex and there are many areas of interest.

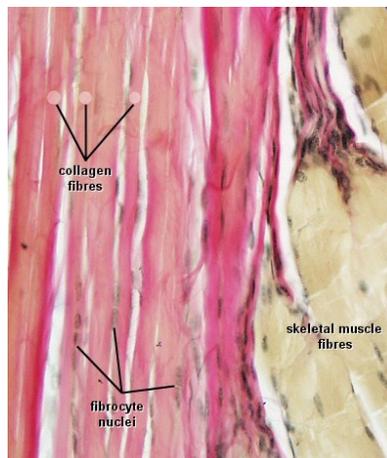


Figure 3: Muscle-Tendon Junction
Van Gieson stain

Research in our laboratory focuses on tendon biochemistry and structural mechanics of tendons. We use all species.

We collaborate with the medical school departments of sports medicine, engineering, and orthopedics to find ways to improve the well-being of athletes. Some of our tendon studies use rabbit cell culture viability, the role of calcium signaling, and the affiliation between bone-tendon and bone-ligament relationships. Recently we focused on a study involving the rabbit Achilles tendon. The injured tendon is in an area of poor blood flow. We used polymer/mesh combination constructs with pattern coating adhesive that we hope will demonstrate and allow soft tissue ingrowth and biocompatibility of healing. This was a complicated rabbit surgery and very challenging histology. It consisted of 1-7 treatment groups of 7, 14, 28, and 84 days after surgery. Paraffin methodology was used. Next, longitudinal sections were made at 5 μm through both the insertion ends of the tendon and the healing area. Every step of the way great detail was necessary to maintain the proper orientation. Cutting through multiple suture knots was successfully performed by using a 50^o tungsten carbide blade. Biomechanics and histological results are currently being used to determine the optimal construct implant for future Achilles studies.

Our lab is involved in an equine tendon project looking at vascular changes in race horses. Clearly tendon tears heal slowly because they lack vascularity. We find that over time some tendons heal based on: treatment, patient age, changes in mechanical loading, and attention to mobilization.

This article is intended to give a brief overview of the structure and function of the tendon, an extremely important and underestimated part of the body. It is also a reminder that stretching and attention to "tendon health" is good for everyone.

.....

....Continued on page 12

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Disclaimer: This article is for informational and educational purposes only. Always seek professional medical advice when experiencing tendon pain and discomfort. Images taken from google.com are for informational purposes within this article and are not to be reproduced.

For further information on tendon function and injury, the following references and websites may be useful.

Figures:

Figure 1: Kansas City University of Medicine and Biosciences

<www.pathguy.com/histo/0.52.htm>

Figure 2: <www.emedicinehealth.com>

Figure 3: <www.lab.anhb.uwa.edu.au>

Websites:

Muscle, Ligaments, and Tendons Journal

<www.mltj.org>

Tendon Injury and Tendinopathy

<www.emedicinehealth.com>

Human Anatomy Pictures and Medical Software

<www.human-anatomy.com>

References:

Burkitt, H. G., B. Young, and J. W. Heath. *Wheater's Functional Histology: A Text and Colour Atlas*. New York: Churchill Livingstone, 1993. Print.

Campbell, Bonnie G., DVM. "Repair of Ruptured Calcaneal Tendon." *University of Wisconsin School of Veterinary Medicine Lecture Series* (1991): 1-6. Web.

Hay, C. W. "Macro and Microstructure of Tendons and Ligaments." *University of Wisconsin School of Veterinary Medicine Lecture Series* (1995): 1-4. Web.

Hess, GW. "Achilles Tendon Rupture: a review of etiology, population, anatomy, risk factors, and injury prevention." *Foot Ankle Spec* (2010): 29-32. Print.

Junqueira, Luiz Carlos Uchôa, and José Carneiro. "Connective Tissue." *Basic Histology: Text & Atlas*. New York: McGraw-Hill, Medical Pub. Division, 2005. 91-122. Print.

Silverstein, Tom. "Only Time Will Heal Aaron Rodgers' Calf, Doctor Says." *Milwaukee Journal Sentinel* 13 Jan. 2015: n. pag. Print.

Thornton, Jim. "Joint Pain." *AARP Magazine* Apr. 2012: 19-20+. Web.

Uddin, Rae. "What Are the Symptoms of Torn Tendons?" *LIVESTRONG.COM*. LIVESTRONG.COM, 23 Mar. 2010. Web.

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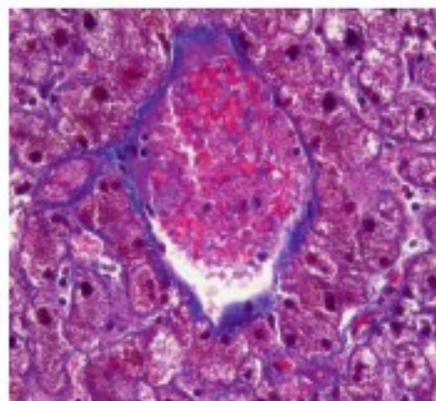
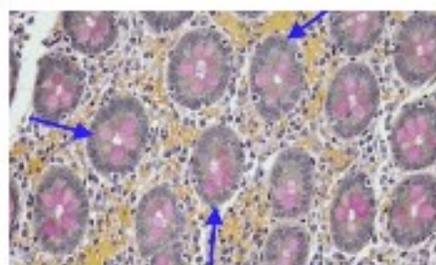
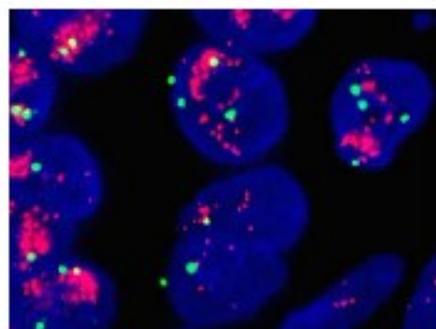
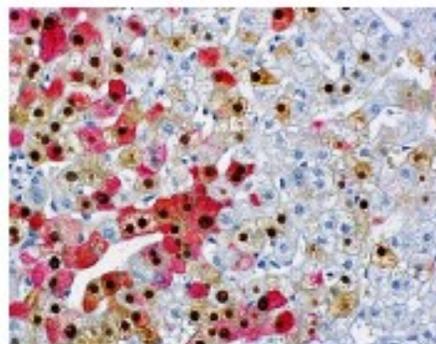
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