SOCIETY FOR PEDIATRIC PATHOLOGY

2021 PERINATAL PATHOLOGY VIRTUAL COURSE

Letter from the Organizer
Linda M. Ernst, MD, MHS

Dear Colleagues,

After many months of cancellation, preparations, and re-working of the course, the SPP 2021 Virtual Perinatal Pathology Course is open for registration and I invite you to join us this year for a schedule packed with education and fun!

Of course, the entire meeting this year will be virtual on Zoom and thus is spread out over 4 days (one more day than usual), in hopes of easing Zoom fatigue. Furthermore, all available lectures will be recorded (with speaker permission) and be available to registrants to view even if you cannot attend the live session at a particular time. This may be a great asset to those interested in attending from international locations!

In addition to the great line up of faculty lecturers including many powerhouse Pathologists of Perinatal Pathology, there will be some more interactive sessions with panelists and guest speakers, as well. See the full schedule at Perinatal Pathology Course and Schedule of Events on the SPP website.

I would like to highlight a few events:

Friday night - Guest speaker – Dr. Don Singer - will be giving a lecture on the history of Perinatal Pathology on Friday night followed by a virtual game night/happy hour. Dr Singer was one of the first Pediatric/Perinatal Pathologists I ever met and his participation in the course is especially meaningful to me and many who have known him over the years!

Saturday night – Guest Speaker – Alexis Carena - from the National Accreta Foundation will be giving a talk about Accreta spectrum disorders from the patient perspective. This talk is not to be missed!

Sunday at the end of the course we will have an informal and interactive discussion of perinatal cases and controversies, facilitated by Dr. Terry Morgan, Dr. Amy McKenney, and myself. It should be informative and interesting!

I hope you will be able to join us for the SPP 2021 Perinatal Pathology Course! Thank you for continued support of the SPP. The Society is nothing without its membership, and I hope you take advantage of this unique educational opportunity.

Best regards,
Linda M. Ernst, MD, MHS
Organizer, 2021 Perinatal Pathology Course

ABOUT THE SOCIETY FOR PEDIATRIC PATHOLOGY

The Society for Pediatric Pathology, founded in 1965, is an educational and scientific organization of physicians and scientists who share a common interest in this vital field. Over 700 members of the Society practice in more than 60 Children's Hospitals, Community Hospitals and University Hospitals of the United States, Canada and throughout the world.

It is the aim of the Society to foster research, education, and practice as they pertain to pediatric pathology, and to provide a forum for discourse among its members.

The Mission of Society for Pediatric Pathology is to perform the following and other related functions:

- To promote expertise, effective teaching and productive research in the practice of pediatric pathology.
- To assist and promote the development and recognition of resident/fellow training programs in pediatric pathology and, through the American Board of Pathology, establish and maintain a means by which pathologists may be certified as having special competency in pediatric pathology.
- To sponsor and promote the education of physicians and others in healthcare related to pediatric pathology.
- To establish and maintain appropriate relationships with other societies and groups of physicians, and other scientists, who share professional interests with the Society.
- To facilitate improved patient outcomes through enhanced clinical and risk assessments.

Society for Pediatric Pathology Administrative Team

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MEETING NEEDS ASSESSMENT

The practice of pediatric pathology requires up-to-date knowledge of the diseases affecting children, including their scientific basis, clinical spectrum, pathologic classification, and current research activities. The Society for Pediatric Pathology 2021 Perinatal Pathology Course is intended as an ongoing resource to meet the educational needs of pediatric pathologists and general pathologists whose practices include pediatric pathology, pediatric pathology fellows, and pathology residents**.**

MEETING OBJECTIVES

Upon completion of this meeting, learners should be able to:

- Improve their pathologic examination of placentas and infant death (including fetal hydrops and malformations)
- Design meaningful reports that document, communicate and educate about pregnancy complications and/or causes of infant death
- Perform a competent perinatal autopsy of the structurally normal, anomalous or hydropic infant
- Perform a competent placental pathologic examination Facilitate improved patient outcomes through enhanced clinical and risk assessments
- Facilitate improved patient outcomes through enhanced clinical and risk assessments

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS

Disclosure Policy

The Society for Pediatric Pathology requires faculty, planners, managers and other individuals who are in a position to control the content of this activity to disclose whether or not they have any relevant financial relationships with ACCME-defined commercial interests. This information must be made known in advance to the audience in accordance with the ACCME *Standards of Commercial Support*^{SM}.

2021 Perinatal Pathology Course Planning Committee Disclosures

All planners and managers reported no relevant financial relationships with ACCME-defined commercial interests: Sanda Alexandrescu, Rebecca Baergen, Eumenia Castro, Linda Ernst, Jonathan Hecht, Debra Heller, Carmen Sarita-Reyes

2021 Perinatal Pathology Course Faculty Disclosures

The following faculty, authors and content developers reported no relevant financial relationships with ACCME-defined commercial interests:

Rebecca Baergen, Chrystalle Carreon, Monique DePaepe, Linda Ernst, Ona Faye-Petersen, Michael Fritsch, Jonathan Hecht, Debra Heller, Jason Jarzembowski, Sanjita Ravishankar, Raymond Redline, Don Singer

The following faculty, authors and content developers reported the following relevant financial relationships they or their spouse/partner have with ACCME-defined commercial interests related to the content of this activity:

First	Last	Disclosure
John	Lee	Holds joint patents on a drug for treatment of Alzheimer's disease/senile dementia and anxiety disorders with others and Cornelli Consulting, Milan, Italy (No

		royalties associated – patent tied to research in early clinical stages); Advisory Board: Ceremark Pharma, Inc.

Unlabeled/Investigation Uses of Products or Devices

This educational activity may contain discussion of published and/or investigational uses of agents that are not indicated by the FDA. The Society for Pediatric Pathology does not recommend the use of any agent outside of the labeled indications.

The opinions expressed in this educational activity are those of the faculty and do not necessarily represent the views of any organization associated with this activity. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications and warnings.

CONTINUING MEDICAL EDUCATION ACCREDITATION

Accreditation Statement

The Society for Pediatric Pathology is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

AMA Credit Designation Statement – SPP Perinatal Pathology Virtual Course

The Society for Pediatric Pathology designates this live activity for a maximum of **19.0** ***AMA PRA Category 1 Credits*** **™.** Physicians should claim only the credit commensurate with the extent of their participation in the activity.

For information about the accreditation of this activity or questions regarding the evaluation and credit claiming process please contact Sarah Porter, sporter@aoeconsulting.com.

Certificate of Participation

Non-physician participants may claim hours to receive a Certificate of Participation for an activity designated for *AMA PRA Category 1 Credit* ™. A certificate will only be issued after completion of the online evaluation form.

Certificate of Credit

Certificates of Credit awarding *AMA PRA Category 1 Credits*™ will be issued to physician learners through the Society for Pediatric Pathology. CME credits will only be awarded after completion of an online evaluation form.

***AMA PRA Category 1 Credits*™ offered – Perinatal Pathology Course:**

Thursday, April 8	**5.50 credits**
Friday, April 9	**5.50 credits**
Saturday, April 10	**5.00 credits**
Sunday, April 11	**3.00 credits**
TOTAL	**19.00 credits**

An evaluation must be completed prior to claiming CME credit for the various offerings. The evaluation forms and CME claim forms can be accessed through the SPP website: https://spponline.org.

SOCIAL ACTIVITIES/NON-CME ACTIVITIES

Friday Night Happy Hour! Quiplash with SPP Presenters and Attendees
Friday, April 9, 2021
6:00 PM – 7:00 PM ET

Join SPP attendees and presenters a round of Quiplash from JackBoxTV Games!

Jackbox Games, Inc. is an American video game developer based in Chicago, Illinois, best known for the You Don't Know Jack series of quiz-based party video games and The Jackbox Party Pack series. **Quiplash** is the gut-busting battle of wits and wittiness! Just use your phone or tablet (no controllers needed) to answer simple prompts like these: Something you'd be surprised to see a donkey do. A double rainbow doesn't have gold at the end of it.

A Patient's Story: Surviving Placenta Accreta
Saturday, April 10, 2021
5:00 PM – 6:00 PM ET
Alexis Carena, National Accreta Foundation

Alexis will present her placenta accreta patient story with emphasis on her patient experience and the lifesaving impact of patient safety protocols. Attendees will learn about Alexis' patient care, her physical and emotional recovery, and the importance of compassion, quality care, resources, and support for birth trauma patients.

Cases & Conversation: Non-CME Discussion with Linda Ernst, MD; Terry K. Morgan, MD, PhD; Amy Heerema McKenney, MD
Sunday, April 11, 2021
2:45 PM – 4:15 PM ET

Non-CME discussion about difficulties in terminology and interpretation in placental pathology

SOCIETY FOR PEDIATRIC PATHOLOGY
2021 PERINATAL PATHOLOGY COURSE
VIRTUAL PROGRAM AGENDA
APRIL 8-11, 2021
All times are EDT (PDT -3, MDT -2, CDT -1)

Click here to convert your time zone

**Indicates session or event is not accredited for continuing medical education (CME) credit*

Thursday, April 8, 2021

11:00 a.m. – 11:05 a.m. **Opening & Welcome**

11:00 a.m. – 12:30 p.m. **Approach to Perinatal Autopsy,** Michael K. Fritsch M.D., PhD & Linda Ernst, M.D., M.H.S.

At the end of this presentation, participants should be able to:

- Express the importance of the perinatal autopsy.
- Describe the procedure for the external examination during a perinatal autopsy
- Describe the procedure for the internal examination during a perinatal autopsy
- Utilize special autopsy procedures during a perinatal autopsy including dissection of the cardiac conduction system, removal of the genitourinary block, eyes, thoracic duct, long bones, skeletal muscle, posterior removal of the central nervous system, and a metabolic disease workup

12:30 p.m. – 1:00 p.m. **Networking Break**

1:00 p.m. – 2:00 p.m. **Normal Fetal Histology,** Linda Ernst, M.D., M.H.S.

At the end of this presentation, participants should be able to:

- Identify the key histologic features of fetal tissues and compare with normal adult histology
- Describe the characteristic histologic features of fetal lung, kidney, liver and gonads in the mid-trimester, early third trimester and at term
- Assess appropriate development of fetal organs via examination of the histology and distinguish normal development from pathology

2:00 p.m. – 3:00 p.m. **Pathology of Stillbirth/Intrauterine Stress,** Michael K. Fritsch M.D., PhD

At the end of this presentation, participants should be able to:

- Define stillbirth and list the epidemiologic risk factors associated with stillbirth
- Identify the complexities associated with determining the cause of death and classifying stillbirth
- Describe various fetal and placental causes/contributing factors of stillbirth
- Describe various maternal causes/contributing factors of stillbirth
- Identify autopsy findings indicative of intrauterine stress

3:00 p.m. – 3:15 p.m. **Break**

3:15 p.m. – 4:15 p.m. **Evaluation of the Hydropic Fetus/Infant**, Ona Faye-Petersen, M.D.

At the end of this presentation, participants should be able to:

- Define hydrops fetalis and the difference between immune-mediated and non-immune hydrops
- List the 3 major components of the end stage phenotype of hydrops fetalis
- List the 4 of the 6 most common clinicopathologic categories of non-immune hydrops fetalis
- Name at least 2 items in the work up of non-immune hydrops that are not routinely included in the standard perinatal autopsy
- Discuss at least 3 factors that predispose the fetus to developing hydrops and the pathophysiologic mechanisms involved
- Describe differences in patterns of edema and effusions in NIH due to Monosomy X, intrathoracic masses, and chronic viral infections

4:15 p.m. – 5:15 p.m. **Skeletal Evaluation & Skeletal Dysplasia**, Linda Ernst, M.D., M.H.S.

At the end of this presentation, participants should be able to:

- Describe the basic features of skeletal ossification in normal fetal life
- Summarize the work-up needed for interpretation of genetic skeletal dysplasia
- Compare and contrast the gross, radiologic, and histologic features of the most common lethal skeletal dysplasias
- Describe and apply a systematic diagnostic approach to skeletal dysplasia

Friday, April 9, 2021

11:00 a.m. – 12:30 p.m. **Evaluation of Congenital Heart Disease**, Chrystalle Carreon, M.D.

At the end of this presentation, participants should be able to:

- Identify the transient shunts in fetal circulation and understand their function
- Identify anatomical landmarks and features of a fetal heart that aid in recognizing chamber identity and structure
- Apply the segmental approach to diagnosis of congenital heart disease
- Create an organized pre-cardiac dissection plan that helps facilitate cardiac evaluation
- Anatomically diagnose and report some of the important congenital heart anomalies that may be encountered at perinatal autopsy

12:30 p.m. – 1:00 p.m. **Networking Break**

1:00 p.m. – 2:00 p.m. **Perinatal Neuropathology**, John M. Lee, M.D., PhD

At the end of this presentation, participants should be able to:

- Cite the major neuropathological gross description elements and block selection for a prenatal brain examination
- Describe the microscopic findings in the brain of acute and prolonged perinatal stress
- Describe the basic gross and microscopic findings major congenital malformation of the brain
- Describe the gross and microscopic findings in major perinatal brain infections

2:00 p.m. – 2:15 p.m. **Break**

2:15 p.m. – 3:15 p.m. **Normal Placental Development & Function**, Ona Faye-Petersen, M.D.

At the end of this presentation, participants should be able to:

- Describe the basics of origin and development of the amnion, chorionic villous tree, umbilical cord vessels, and ductus venosus
- Recognize the histomorphologies of first, second, early third, and mature third trimester chorionic villi, and list 2 of the advantageous properties of the first and mature third trimester villous developmental stages
- Name 3 major factors that enable chorionic villous glucose uptake and transport to the fetal circulation
- Discuss the basic synthetic pathway differences between placental polypeptide hormones and placental steroidal hormones, and name 1 example of each and its action on the maternofetal dyad

3:15 p.m. – 4:15 p.m. **Gross Placental Pathology**, Rebecca Baergen, M.D.

At the end of this presentation, participants should be able to:

- Formulate an approach to gross examination and reporting of placental pathology
- Identify and describe specific gross findings in the setting of maternal vascular malperfusion
- Identify and describe specific gross findings in the setting of fetal vascular malperfusion
- Differentiate macroscopically different lesions of villous tissue including infarction, intervillous thrombi, intervillous abscesses and fibrin deposition

4:15 p.m. – 4:30 p.m. **Break**

4:30 p.m. – 5:30 p.m. **A Historical View of Perinatal Pathology Lecture**, Don Singer, M.D.

At the end of this presentation, participants should be able to:

- Discuss the earliest perinatal pathology studies
- Describe the importance of Da Vinci's and Vesalius' drawings of placentas and fetuses
- Recognize Edith Potter's influence on and current challenges of perinatal pathology

5:30 p.m. – 6:00 p.m. **Networking Break**

6:00 p.m. - 7:00 p.m. ***Quiplash! JackBox TV Games with SPP Presenters and Attendees**

Saturday, April 10, 2021

11:00 a.m. – 12:00 p.m. **Maternal Vascular Pathology**, Raymond W. Redline, M.D.

At the end of this presentation, participants should be able to:

- Recite and implement the standardized international Amsterdam placental classification system for describing placental findings related to maternal vascular malperfusion and related disorders
- Appreciate the underlying biology of uteroplacental development and how it is altered in placentas with maternal vascular pathology
- Realize the significance of maternal vascular pathology in the placenta for explaining clinical obstetric syndromes and understanding adverse maternal and fetal outcomes

12:00 p.m. – 1:00 p.m**.** **Fetal Vascular Lesions**, Sanjita Ravishankar, M.D.

At the end of this presentation, participants should be able to:

- Summarize the spectrum of placental histologic changes associated with fetal vascular malperfusion

- Integrate placental histologic findings of fetal vascular malperfusion with corresponding clinical situations, gross appearances and the current literature on associated outcomes
- Differentiate the three types of villous capillary lesions, and apply them to the appropriate clinicopathologic scenarios

1:00 p.m. – 1:30 p.m. **Networking Break**

1:30 p.m. – 2:30 p.m. **Miscellaneous Placental Lesions**, Linda Ernst, M.D., M.H.S.

At the end of this presentation, participants should be able to:

- Identify the key gross and histologic criteria for the diagnosis of miscellaneous placental lesions, including chronic villitis of unknown etiology, massive perivillous fibrin deposition, delayed villous maturation and placental mesenchymal dysplasia
- Evaluate the need for ancillary testing/genetic testing to assist in the diagnosis of these miscellaneous placental pathologies
- Identify key clinical correlations with each miscellaneous placental pathology

2:30 p.m. – 3:30 p.m. **Acute and Chronic Placental Infections**, Jason Jarzembowski, M.D., PhD

At the end of this presentation, participants should be able to:

- Systematically examine a placenta for gross and microscopic evidence of infection and select appropriate ancillary testing
- Correctly assign histologic stage, grade, chronicity, and maternal/fetal origin to inflammatory responses in the setting of placental infection
- Identify pertinent features of the various types of placental infection and clearly communicate their implications for maternal, fetal, and neonatal health

3:30 p.m. – 4:00 p.m. **Networking Break**

4:00 p.m. – 5:00 p.m**.** **Case Presentations/Panel Discussion: Controversies in Placenta Pathology & Medical Legal Issues,** Ona Faye-Petersen, M.D., Rebecca Baergen, M.D., Raymond W. Redline, M.D.

At the end of this presentation, participants should be able to:

- Discuss rationale for distinguishing amnion nodosum from chorion nodosum as a manifestation of early amniotic disruption sequence
- Discuss features of and proposed etiologies for phenotypes categorized as Amniotic Band Sequence (or its alternative designations of Amniotic Disruption Sequence; Amniotic Band Syndrome; Amniotic Deformity, Adhesion, and Mutilation Sequence) and fetal limb-body wall complex
- Describe the histological features of meconium-associated myonecrosis
- Appreciate the differential diagnosis when circulating nucleated cells other than NRBC are seen in the fetal circulation of the placenta
- Describe the relationship between increased circulating NRBC and hydrops fetalis, fetomaternal hemorrhage, and increased risk of neurodisability at term

5:00 p.m. – 6:00 p.m. ***Alexis Carena, National Accreta Foundation Guest Speaker**

Sunday, April 11, 2021

11:00 a.m. – 12:00 p.m. **Accreta Spectrum Disorders**, Jonathan Hecht, M.D., PhD

At the end of this presentation, participants should be able to:

- Review clinical risk factors, clinical presentation, and morbidity associated with invasive placentation
- Describe the pathophysiology of Placenta Accreta Spectrum disorders (PAS)
- Summarize the role of pathology in diagnosis and quality assurance for PAS

12:00 p.m. – 1:00 p.m. **Evaluation of the Twin Placenta**, Monique DePaepe, M.D.

At the end of this presentation, participants should be able to:

- Discuss the distinction between zygosity and chorionicity
- Describe the various twinning types and their proposed underlying mechanisms
- Summarize the complications of dichorionic and monochorionic twinning
- Perform a detailed pathologic examination of twin/multiple placentas

1:00 p.m. – 1:30 p.m. **Networking Break**

1:30 p.m. – 2:30 p.m**.** **Molar Pregnancy**, Debra Heller, M.D.

At the end of this presentation, participants should be able to:

- Describe the histology of complete and partial moles
- Recite ancillary techniques in the diagnosis of molar disease
- List the mimics of molar disease

2:30 p.m. – 2:45 p.m. **Break**

2:45 p.m. – 4:15 p.m**.** ***"Informal" Cases and Conversations**; Discussion with Linda Ernst, MD, MHS; Terry K. Morgan, MD, PhD; Amy Heerema McKenney, MD

4:15 p.m. **Course Adjourns**