

# Distance Learning at Ian Donald School

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## ABSTRACT

Leadership and directors of Ian Donald Inter-University School of Medical Ultrasound are aware of the importance and complexity of ultrasound education. Web-based learning is perceived by adult learners as a better strategy of assimilating information, because it can be accessed anytime and anywhere. At the time of global conference an update about the progress of our distance learning program will be provided.

**Keywords:** Ultrasound education, Web-based learning, Distance learning, Distance teaching, Ian Donald School of Ultrasound.

**How to cite this article:** Kupesic PS. Distance Learning at Ian Donald School. Donald School J Ultrasound Obstet Gynecol 2013;7(3):280-291.

**Source of support:** Nil

**Conflict of interest:** None declared

## INTRODUCTION

The aim of Ian Donald Inter-University School of Medical Ultrasound is to promote education, research and art of ultrasound scanning. Our meetings and conferences present the latest evidence-based education in the field of OB GYN ultrasound that helps our participants to significantly improve their diagnostic and clinical accuracy. Our basic and advanced courses designed by regional school directors, experienced clinicians, sonographers and other imaging professionals provide high quality educational opportunities to the learners to advance their knowledge and skills in OB GYN ultrasound scanning.

Our leadership and national branches directors worldwide are aware of the importance and complexity of OB GYN ultrasound education. Web-based learning is perceived by adult learners as a better strategy of assimilating information, because can access it anytime and anywhere. New generation of learners is prepared and equipped with most recent technology to educate themselves throughout their lives. Therefore, we educators, have to be prepared for this important switch in education. Use of distance learning in ultrasound serves as a great tool for developing basic skills for images interpretation, facilitates referral and decision-making skills and assures better longitudinal and vertical integration of knowledge. Computer-assisted learning is applicable in clinical and postgraduate settings according to the need of learners of today and tomorrow, who have different learning styles from their predecessors. Our official publisher, Jaypee, our long term partner in this effort will do its best to help us to achieve

this goal by offering our publications in electronic format on their distance learning website: [www.jaypeedigital.com](http://www.jaypeedigital.com).

Having an easy access and link to web-based library of Ian Donald videos and learning modules created by our prominent educators will be like having a group of experts at your fingertips. I encourage you to visit and choose the material which will benefit most your current and future patients and students. For your convenience I enclose the list of abstracts and keywords for 26 educational videos, 11 learning modules and 25 case studies with 500 multiple choice items prepared to test your knowledge in clinical sonographic correlation and integration. Please find a welcome place for Jaypee's website among the favorites on your computer's desktop and—enjoy using it at your home or office, or when you are traveling, at your own pace.

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|------------------------------|--|
| <b>Title name:</b>           | Donald School Video Atlas of Ultrasound in Obstetrics and Gynecology |
| <b>Author name:</b>          | Sanja Kupesic  |
| <b>Title ISBN:</b>           | 978-93-5025-096-9  |
| <b>Title Copyright year:</b> | 2012   |
| <b>Title specialty:</b>      | Obstetrics & Gynecology/<br>Ultrasound imaging                       |

## DVD Abstract

Jaypee's Donald School Video Atlas of Ultrasound in Obstetrics and Gynecology is designed for women's imaging health care specialists: obstetricians and gynecologists, sonographers and radiologists.<sup>1</sup> Material contains high quality images and videos performed by ultrasound experts and outlines simple steps in obstetrics and gynecology ultrasound scanning which may help sonographers to improve their scanning skills. The videos in these two indispensable DVDs contain information that cannot be mastered using photograph format and cover the following areas: fetal anatomy scan, 3D sonoembryology, 4D ultrasound in perinatal medicine, color Doppler flow, multiple pregnancy, amenorrhea, infertility, contraception, menopause, pelvic floor abnormalities, pelvic inflammatory disease and pelvic pain.

## DVD 1: OBSTETRICS

### Video 1: Fetal Anatomy Scan

**Keywords:** Fetal biometry, Biparietal diameter, Head circumference, Lateral ventricle measurement, Abdominal circumference, Femoral length, Amniotic fluid volume.

**Abstract:** This video demonstrates a standardized fetal anatomy survey during 2nd trimester of pregnancy. Accurate measurements of biometric parameters such as biparietal diameter, occipitofrontal diameter, head circumference, lateral ventricle measurement, abdominal circumference and femoral length are documented, together with standardized planes for fetal evaluation. Bidimensional fetal echocardiography, assessment of the amniotic fluid index, placental location and cervical length are also described.

### Video 2: 3D Sonoembryology

**Keywords:** Embryonic and fetal development, Sonoembryology, 3D ultrasound, Multiplanar view, Surface rendering.

**Abstract:** This video demonstrates the use of three-dimensional ultrasound in the assessment of embryonic and fetal development, and reconstruction of fetal face. Development of fetal organs is described week-by-week and role of sonography in chromosomal malformation workup is illustrated.

### Video 3: 4D Ultrasound in Perinatal Medicine

**Keywords:** 4D ultrasound, Fetal behavior, Fetal movements.

**Abstract:** This video shows how 4D ultrasound examination can be used to evaluate and study fetal behavior and response to internal and external stimuli. Continuum of fetal movements from 11 weeks of gestation toward the end of pregnancy is demonstrated.

### Video 4: Color Doppler Flow

**Keywords:** Doppler ultrasound, Umbilical artery blood flow, Descending fetal aorta, Middle cerebral artery, Circle of Willis.

**Abstract:** This video illustrates evaluation of various Doppler indices in obstetrics, including umbilical artery blood flow, circle of Willis, descending fetal aorta and middle cerebral artery.

### Video 5: Multiple Pregnancy

**Keywords:** Multiple pregnancy, Chronicity, Amnionicity, Twin-to-twin transfusion.

**Abstract:** This video demonstrates the use 2D, 3D and color Doppler ultrasound for evaluation of multiple pregnancies (twins and higher order multiples). Ultrasound's essential role in the assessment of chorionicity and amnionicity, conjoined twinning, twin-to-twin transfusion, intrauterine fetal demise and fetal anomalies is described.

## DVD 2: GYNECOLOGY

### Video 1: Amenorrhea

**Keywords:** Primary amenorrhea, Secondary amenorrhea, Imperforate hymen, Polycystic ovarian syndrome, Asherman syndrome.

**Abstract:** This video reviews the most common causes of primary and secondary amenorrhea. The various causes of primary amenorrhea, such as imperforate hymen and secondary amenorrhea such as PCOS and intrauterine adhesions are illustrated and discussed.

### Video 2: Infertility

**Keywords:** Proliferative phase, Perioovulatory phase, Secretory phase, Ovarian causes of infertility, Tubal causes of infertility, Uterine causes of infertility.

**Abstract:** This video demonstrates the use of 2D, 3D and color Doppler ultrasound for evaluation of the uterus and ovaries during proliferative, perioovulatory and secretory phases of the menstrual cycle. Ultrasound findings of the uterine, tubal and ovarian causes of infertility are reviewed and discussed.

### Video 3: Contraception

**Keywords:** Contraception, Birth control pills, Intrauterine contraceptive devices.

**Abstract:** This video shows the use of ultrasound in evaluation and monitoring of the patients using different types of contraception. 2D and 3D ultrasound finding of different types of intrauterine contraceptive devices are shown.

### Video 4: Menopause

**Keywords:** Premature ovarian failure, Endometrial thickness, Ovarian size, Uterine artery blood flow.

**Abstract:** This video illustrates the role of ultrasound in evaluation of the uterine, ovarian and Doppler findings in menopausal patients. In postmenopausal patients one of the most important uses of ultrasound involves endometrial assessment to rule out abnormal endometrial thickening.

### Video 5: Pelvic Floor Abnormalities

**Keywords:** Prolapse, Pelvic floor relaxation, Urinary bladder, Ureteric jets, Rectocele, Enterocoele, Cystocoele, Urethrocele, Ureterocele.

**Abstract:** This video demonstrates the role of ultrasound in the assessment of pelvic floor abnormalities and urinary incontinence. Ultrasonographic visualization of the urinary

bladder and evaluation of the angles between the urinary and gynecologic structures are demonstrated.

### Video 6: Pelvic Inflammatory Disease

**Keywords:** Endometritis, Salpingitis, Oophoritis, Pelvic inflammatory disease, Tubo-ovarian abscess, Hydrosalpinx.

**Abstract:** This video illustrates the classic sonographic and Doppler findings of the uterus and adnexa in patients with acute and chronic pelvic inflammatory disease. Morphologic and Doppler signs of endometritis, salpingitis and oophoritis are demonstrated and explained.

### Video 7: Pelvic Pain

**Keywords:** Functional cysts, Adnexal torsion, Appendicitis, Pelvic inflammatory disease, Ectopic pregnancy, Endometriosis, Pelvic congestion syndrome.

**Abstract:** This video demonstrates the ultrasonographic evaluation of the patients presenting with acute or chronic pelvic pain. The various causes for pelvic pain such as functional cysts of the ovaries, adnexal torsion, acute appendicitis, acute and chronic PID, endometriosis, ectopic pregnancy and pelvic congestion syndrome are demonstrated on 2D, 3D and color Doppler ultrasound.

**Title name:** Donald School Video Atlas of Ultrasound in Fetal Anomalies and Gynecologic Oncology  
**Author name:** Sanja Kupesic  
**Title ISBN:** 978-93-5025-496-7  
**Title Copyright year:** 2012  
**Title specialty:** Obstetrics and Gynecology/  
Ultrasound imaging

### DVD Abstract

Jaypee's Donald School Video Atlas of Ultrasound in Obstetrics and Gynecology is designed for women's imaging health care specialists: obstetricians and gynecologists, sonographers and radiologists.<sup>2</sup> Material contains high quality images and videos performed by ultrasound experts and outlines simple steps in obstetrics and gynecology ultrasound scanning which may help sonographers to improve their scanning skills. The videos in these two indispensable DVDs contain information that cannot be mastered using photograph format and cover the following areas: bleeding in pregnancy, sonographic markers of fetal chromosome anomalies, CNS, head and neural tube anomalies, fetal heart and congenital cardiac malformations, congenital pulmonary malformations, gastrointestinal and abdominal wall anomalies, fetal kidney

and renal anomalies, normal and abnormal genitalia, musculoskeletal system, color Doppler and 3D ultrasound in the assessment of pregnancy complications and fetal anomalies, adnexal lesions, uterine lesions, cervical lesions, abnormal reproductive age vaginal bleeding, and peri- and postmenopausal bleeding.

### DVD 1: OBSTETRICS

#### Video 1: Bleeding in Pregnancy

**Keywords:** Threatened abortion, Subchorionic hematoma, Missed abortion, Anembryonic pregnancy, Complete abortion, Incomplete abortion, Recurrent abortion, Imminent abortion, Ectopic pregnancy, Partial hydatidiform mole, Complete mole, Choriocarcinoma, Premature labor, Placenta previa, Placental abruption.

**Abstract:** The objective of this video is to familiarize the learner with imaging findings which may present with similar clinical symptoms, such as bleeding and pain during pregnancy, and include threatened abortion, subchorionic hematoma, missed abortion, anembryonic pregnancy, complete abortion, incomplete abortion, recurrent abortion, imminent abortion, ectopic pregnancy, partial hydatidiform mole, complete mole, choriocarcinoma, premature labor, placenta previa and placental abruption.

#### Video 2: Sonographic Markers of Chromosome Anomalies

**Keywords:** Sonographic markers of chromosome anomalies, Increased nuchal translucency, Absence of nasal bone, Reversed flow in ductus venosus, Single umbilical artery blood flow, Choroid plexus cyst, Cleft lip and palate, Micrognathia, Macroglossia, Omphalocele, Duodenal atresia, Hyperechogenic bowel, Pyelectasis, Club foot.

**Abstract:** This video illustrates multiple sonographic markers of aneuploidy, such as increased nuchal translucency, absence of nasal bone, reversed flow in ductus venosus, single umbilical artery blood flow, choroid plexus cyst, cleft lip and palate, micrognathia, macroglossia, omphalocele, duodenal atresia, hyperechogenic bowel, pyelectasis, club foot, etc.

#### Video 3: CNS, Head and Neural Tube Anomalies

**Keywords:** Anencephalus, Hydrocephalus, Holoprosencephaly, Porencephaly, Dandy-Walker malformation, Spina bifida, Meningoencephalocele, Cleft lip and palate, Micrognathia, Macroglossia, Proboscis.

**Abstract:** This video shows CNS, head and neural tube anomalies which can be prenatally detected using

transabdominal and transvaginal sonography, 3D ultrasound, color Doppler and magnetic resonance imaging, such as anencephalus, hydrocephalus, holoprosencephaly, porencephaly, Dandy-Walker malformation, spina bifida, meningoencephalocele, etc. Facial defects, such as cleft lip and palate, micrognathia, macroglossia and proboscis are also illustrated.

#### Video 4: Fetal Heart and Congenital Cardiac Anomalies

**Keywords:** Fetal echocardiography, Tetralogy of Fallot, Atrial septal defect, Hypoplastic left heart.

**Abstract:** This video demonstrates basic steps of 2D fetal echocardiography and illustrates the pathophysiology of most common congenital cardiac anomalies, such as Tetralogy of Fallot, atrial septal defect and hypoplastic left heart.

#### Video 5: Congenital Pulmonary Malformations

**Keywords:** Fetal pulmonary anomalies, Congenital pulmonary airway malformation, Bronchopulmonary sequestration, Pulmonary hypoplasia.

**Abstract:** In this video most common pulmonary anomalies, such as congenital pulmonary airway malformation, bronchopulmonary sequestration and pulmonary hypoplasia are discussed and illustrated.

#### Video 6: Gastrointestinal and Abdominal Wall Anomalies

**Keywords:** Fetal GI anomalies, Omphalocele, Gastroschisis, Bladder exstrophy.

**Abstract:** The objective of this video is to familiarize the learner with typical sonographic findings of the most common gastrointestinal and front abdominal wall anomalies, such as omphalocele, gastroschisis and bladder exstrophy.

#### Video 7: Fetal Kidney and Renal Anomalies

**Keywords:** Renal anomalies, Polycystic kidney disease, Potter syndrome, Renal cyst, Prune belly syndrome, Hydronephrosis.

**Abstract:** This video demonstrates the use of ultrasound in fetal genitourinary examination. Sonographic images of most common renal anomalies, such as polycystic kidney disease, Potter syndrome, renal cyst, Prune belly syndrome and hydronephrosis are explained and illustrated.

#### Video 8: Normal and Abnormal Genitalia

**Keywords:** Fetal genitalia, Hypospadias, Ambiguous genitalia, Hypertrophic clitoris.

**Abstract:** This video demonstrates images of normal and abnormal fetal genitalia, such as hypospadias and ambiguous genitalia by 2D and 3D ultrasound.

#### Video 9: Musculoskeletal System

**Keywords:** Fetal skeletal anomalies, Hypoplastic bones, Thanatophoric dwarfism, Achondroplasia, Amniotic band syndrome, Club foot, Overlapping fingers, Polydactyly, Syndactyly.

**Abstract:** This video demonstrates how ultrasound can be efficiently used for prenatal detection of skeletal anomalies. Cases of abnormally shortened, bowed or anomalous fetal bones are demonstrated using 2D and 3D ultrasound.

#### Video 10: Color Doppler and 3D Ultrasound in the Assessment of Pregnancy Complications and Fetal Anomalies

**Keywords:** Color Doppler and 3D ultrasound, Fetal anomalies, Surface anomalies, CNS anomalies, GI fetal anomalies, Renal anomalies, Cardiac anomalies.

**Abstract:** This video illustrates how color Doppler and 3D ultrasound can improve the assessment of pregnancy complications and fetal anomalies. Case presentations of fetal surface anomalies, CNS, gastrointestinal, renal and cardiac anomalies demonstrate how additional information provided by these techniques can refine and expand our knowledge of normal and abnormal fetal anatomy.

### DVD 2: GYNECOLOGY

#### Video 1: Adnexal Lesions

**Keywords:** Simple ovarian cyst, Corpus luteum cyst, Hemorrhagic cyst, Paraovarian cyst, Polycystic ovaries, Dermoid cyst, Ovarian endometrioma, Ovarian fibroma, Ovarian cystadenoma, Ovarian carcinoma, Tubal carcinoma, Scoring system for adnexal masses, Color Doppler sonography, 3D power Doppler ultrasound.

**Abstract:** This video demonstrates the role of transvaginal sonography, 3D ultrasound, color Doppler and 3D angiography in the assessment of benign and malignant adnexal masses. Improved detection and classification of tumor morphology and vascularity may lead to improved diagnostic accuracy and early diagnosis of ovarian and tubal carcinoma.

## Video 2: Uterine Lesions

**Keywords:** Uterine fibroids, Adenomyosis, Uterine sarcoma, Endometrial hyperplasia, Endometrial polyp, Endometrial carcinoma.

**Abstract:** The objective of this video is to illustrate the role of ultrasound and color Doppler imaging in the evaluation of uterine lesions, such as uterine fibroids, adenomyosis, uterine sarcoma, endometrial hyperplasia, endometrial polyp and endometrial carcinoma. Morphological and vascular criteria assessed by different forms of ultrasound are listed for each type of the uterine lesion.

## Video 3: Cervical Lesions

**Keywords:** Cervical lesions, Cervical polyp, Cervical carcinoma.

**Abstract:** This video demonstrates the role of B-mode and color Doppler ultrasound in the assessment of cervical lesions, such as cervical polyp and carcinoma.

## Video 4: Abnormal Reproductive Age Vaginal Bleeding

**Keywords:** Reproductive age abnormal uterine bleeding, Dysfunctional uterine bleeding, Uterine fibroids, Adenomyosis, Abnormal endometrial thickening.

**Abstract:** Ultrasound and color Doppler findings of the most common causes of reproductive age abnormal vaginal bleeding, such as dysfunctional uterine bleeding, uterine fibroids, adenomyosis and abnormal endometrial thickening are demonstrated in this video.

## Video 4: Peri- and Postmenopausal Bleeding

**Keywords:** Peri- and postmenopausal bleeding, Atrophic endometrium, Endometrial hyperplasia, Endometrial polyp, Endometrial carcinoma.

**Abstract:** This video illustrates sonographic and Doppler findings of the most common causes of peri- and postmenopausal vaginal bleeding, such as atrophic endometrium, endometrial hyperplasia, endometrial polyp and endometrial carcinoma.

**Title name:** Donald School Video Atlas of Clinical Skills in Obstetrics and Gynecology  
**Author name:** Sanja Kupesic  
**Title ISBN:** 978-93-5025-803-3  
**Title Copyright year:** 2012  
**Title specialty:** Obstetrics and Gynecology/  
Ultrasound imaging

## DVD Abstract

Jaypee's Donald School comprehensive Video Atlas of Clinical Skills in Obstetrics and Gynecology covers the most common clinical scenarios in Ob-Gyn, and is the only resource you will need in order to master the art of being a provider.<sup>3</sup> This DVD set contains high-yield information that can be used by professionals as a refresher course, for the first time learner, and for all levels in between. This learning tool has been designed to demonstrate the clinical thought process and patient interactions using the most common subjects in obstetrics and gynecology. Our Video Atlas was created to help learners not just attain knowledge regarding Ob-Gyn, but also to learn Clinical Skills that are tested during their exams. The lectures present the knowledge required on the topic being presented, the interviewing skills videos demonstrate an example of correct standardized patient interaction, and the flashcards are a way to summarize the information given. Interviewing skills portion improves learners' ability to gather a patient's history, perform physical examinations, and communicate their findings in a written note. The flashcards are a great resource for keeping all of the information at learners' fingertips.

## DVD 1

### Learning Module 1: Abnormal Menstrual Cycle

**Keywords:** Primary amenorrhea, Secondary amenorrhea, Polycystic ovarian syndrome, Primary dysmenorrhea, Secondary dysmenorrhea, Premenstrual disorders (premenstrual syndrome and premenstrual dysphoric disorder).

**Abstract:** This learning module on abnormal menstrual cycle focuses on the abnormalities of the menstrual cycle, which are often signs of pathology and/or aberration in the function of the hypothalamic-pituitary-ovarian axis. Different disorders of the menstrual cycle occurring in the reproductive life of female patients are presented together with conceptual framework for the assessment and therapy of this common clinical presentation.

### Learning Module 2: Infertility

**Keywords:** Primary infertility, Secondary infertility, Semen analysis, Ovarian causes of infertility, Anovulation, Tubal causes of infertility, Assessment of tubal patency, Uterine causes of infertility.

**Abstract:** Learning module on infertility focuses on the most common causes of primary and secondary infertility. The authors discuss the most common clinical and laboratory findings which are key in the processes of

exclusion, differentiation and diagnosis of the ovarian, tubal and uterine causes of infertility.

### Learning Module 3: Contraception

**Keywords:** Hormonal contraception, Birth control pills, Emergency contraception, Nonhormonal contraception, Condom, Diaphragm, Intrauterine device, Permanent contraception, Sterilization.

**Abstract:** In this learning module the authors explain and discuss the function, effectiveness rate, side effects, advantages and disadvantages of available contraceptives and birth control.

### Learning Module 4: Menopause

**Keywords:** Physiologic menopause, Premature ovarian failure, Hot flashes, Vaginal dryness, Vulvodynia, Dyspareunia, Osteoporosis, Hormone replacement therapy.

**Abstract:** This learning module focuses on menopause, including physical (local and systemic), hormonal and psychological changes. The authors illustrate an effective initial plan for management of postmenopausal patients, and outline the risks, benefits and guidelines for the use of hormone replacement therapy.

### Learning Module 5: Pelvic Floor Abnormalities

**Keywords:** Pelvic floor relaxation, Stress urinary incontinence, Overactive bladder and mixed incontinence.

**Abstract:** This learning module describes the most common symptoms of pelvic floor dysfunction and discusses the difference in presentation between stress urinary incontinence, overactive bladder and mixed incontinence. The authors list behavioral, medical and surgical methods to treat urinary incontinence and prolapse.

### Learning Module 6: Abnormal Genital Tract Bleeding

**Keywords:** Premenarchal genital tract bleeding, Abnormal genital tract bleeding in reproductive age, Peri- and postmenopausal genital tract bleeding, Sexual assault.

**Abstract:** This learning module describes the etiology of abnormal genital tract bleeding that can be secondary to anatomic changes of the female genital tract, infection, endocrinologic disorders, malignancies and systemic disease. Appropriate workup guided by age-related differential diagnoses for each cause of abnormal genital tract bleeding is presented, together with workup, treatment and follow-up.

## DVD 2

### Learning Module 7: Screening and Prevention: Pap Smear/Breast

**Keywords:** Pap smear, HPV testing, Colposcopy, Mammography, Breast ultrasound, Fine needle aspiration, Core needle biopsy, Breast self-examination.

**Abstract:** This learning module presents effective screening strategy for early detection of cervical and breast carcinoma. The authors discuss the association of human papilloma virus (HPV) with cervical intraepithelial neoplasia and invasive cancer, and list recommendations for prevention of cervical dysplasia/cervical cancer and identify health promotion strategies for sexually active women. They also discuss diagnostic approach to patients with chief complaint of breast mass, nipple discharge and breast pain, and provide guidelines how to select women who are at high risk for breast cancer based on age, family history or the presence of other pre-existing risk factors, signs and symptoms for mammography and/or genetic screening.

### Learning Module 8: Vaginal Discharge, STD and PID

**Keywords:** Vaginal discharge, STD, PID, Pelvic pain, Gonorrhea, Chlamydia, Herpes simplex virus, Syphilis, Trichomonas, Antibiotic therapy.

**Abstract:** This learning module discusses different manifestations of STD and PID ranging from vaginal discharge to severe pelvic pain. Pathogenesis, clinical signs, symptoms, differential diagnosis and complications of different types of STD and PID are discussed, together with guidelines for management.

### Learning Module 9: Pelvic Mass and Pelvic Pain

**Keywords:** Uterine masses, Uterine fibroid, Adenomyosis, Ovarian cysts, Follicular, Luteal and hemorrhagic ovarian cysts, Cystadenoma, Dermoid cyst, Ovarian endometrioma, Ovarian cystadenocarcinoma, Acute and chronic pelvic pain, Ovarian torsion, Ectopic pregnancy.

**Abstract:** This learning module presents a concise algorithmic approach to differential diagnosis of pelvic masses and pelvic pain, which facilitates differential diagnosis and identifies the features of a pelvic mass that require urgent evaluation and management, such as ovarian torsion and ectopic pregnancy. Pelvic masses encompass a wide range of etiologies, from simple ovarian cysts to ovarian neoplasm and nongynecologic causes. After viewing this learning module, the learner will become familiar with

clinical symptoms, imaging and differential diagnoses of the patients presenting with pelvic mass and pelvic pain.

### Learning Module 10: Normal Pregnancy

**Keywords:** Normal pregnancy, Antenatal care, Prenatal ultrasound, Nuchal translucency screening, Biochemical screening, Immunization in pregnancy, Labor, Stages of labor, Postpartum period, Postpartum care.

**Abstract:** This learning module discusses the physiologic and anatomic changes associated with pregnancy. Appropriate diagnostic studies for each trimester of pregnancy, and methods for prenatal diagnosis (antenatal care) are described in details. After viewing this module the learner will know how to counsel patients concerning pregnancy, nutritional needs of pregnant women, exercise during pregnancy, immunization, adverse effects of drugs and the environment, labor and delivery. Also, the learner will be able to list the signs, symptoms and stages of labor, and describe the techniques to evaluate the progress of the labor and assess the fetal well-being, as well as to discuss the physiologic changes of the postpartum period, and list the components of normal postpartum care.

### Learning Module 11: Pregnancy Loss and Pregnancy Complications

**Keywords:** Threatened abortion, Subchorionic hematoma, Missed abortion, Inevitable abortion, Anembryonic pregnancy, Ectopic pregnancy, Gestational trophoblastic disease, Partial mole, Complete mole, Choriocarcinoma, Premature labor, Placenta previa, Placental abruption.

**Abstract:** This learning module presents clinical, laboratory and imaging findings which are key in the process of differentiation and diagnosis of threatened, missed, and inevitable abortion. After completion of this learning module the learner will be able to recognize and differentiate, by analyzing the clinically relevant information and ultrasound imaging studies, among the numerous causes of uterine bleeding during pregnancy.

**Title name:** Step-by-Step through OB GYN Case Studies  
**Author name:** Sanja Kupesic  
**Title ISBN:** TBD (to be determined)  
**Title Copyright year:** 2013  
**Title specialty:** Obstetrics and Gynecology/  
 Ultrasound imaging

### Book/DVD Abstract

‘Step-by-Step through OB GYN Case Studies’ allows students, residents and physicians to go through the most

common scenarios in OB GYN practice and gain longitudinal experience with 25 virtual patients.<sup>4</sup> The use of consistent formatting enables easy assessment of patients’ chief complaints, history, investigations, management and follow-up. Each case study provides a list of learning objectives and references to allow the assessment of the learner’s performance and for quick detection of the areas that need improvement. At the end of each block there are four multiple choice questions relevant to the clinical presentation to test the learner’s clinical and basic science knowledge and understanding. These items are designed to verify whether the learner has met the learning objectives. By the end of each case study the learner has been tested over 20 high yield items. Twenty-five case studies with 500 multiple choice questions have explanations for positive and negative choices, and high quality illustrations and images enable subject specific practice in the field of reproductive medicine. Learners interested in interactive learning can also purchase an interactive DVD or access to a distance learning website with interactive case studies. The authors of this book/DVD believe that their clinical vignettes and robust question bank will allow different levels of learners to improve their clinical knowledge and reasoning as well as update their therapeutic and management skills.

**General keywords** applicable to the book/DVD as a whole or that can be added to each case: OB GYN, OB/GYN, OB-GYN, Case studies, Clinical vignettes, Question bank, Board review, Board review course, USMLE Step 2, USMLE Step 2 CK, USMLE Step 2 CS, USMLE Step 3, Rotation review, Medical student shelf exam, MS3 OB GYN shelf, OB GYN shelf prep, Board preparation, OB GYN clinical curriculum, Practice questions, Management, Treatment, Reproductive medicine course, Reproductive curriculum, NBME OB-GYN subject exam, OB GYN department exam, OB-GYN in-service exam, Increase OB GYN knowledge, Physician assistant certification exam, Study for PA certification, Physician Assistant National Certifying Exam, PANCE, Physician Assistant National Recertifying Exam, PANRE, National Certification Exam, Nurse Midwifery, CNM, Midwife certification, OB GYN study guide, American Midwifery Certification Board, AMCB, Study, Pass, Exam, Test, Degree, Certification.

### Case Study 1: Secondary Infertility

**Keywords:** Primary amenorrhea, Secondary amenorrhea, Primary infertility, Secondary infertility, Dilatation and curettage, D&C, D+C, D/C, Dilation and curettage, Complications of intrauterine procedures, Intrauterine adhesions, Asherman’s syndrome, Ultrasound, US, U/S, 3D

ultrasound, Congenital uterine anomalies, Septate uterus, Therapeutic hysteroscopy, Hysteroscopic adhesiolysis, Hysteroscopic metroplasty.

**Abstract:** This case study illustrates a patient presenting with secondary infertility and secondary amenorrhea. Her history is significant for two miscarriages and a dilatation and curettage secondary to retained products of conception. Pelvic ultrasound assisted in detection of uterine causes of infertility. Hysteroscopic adhesiolysis was performed to preserve or regain fertility. During the course of this case study the learner is tested over 20 high yield items. High quality ultrasound and hysteroscopic images contribute to better understanding of Asherman's syndrome and uterine congenital anomalies.

### Case Study 2: Primary Infertility

**Keywords:** Primary infertility, Fertility, Dysmenorrhea, Pelvic pain, Endometriosis, Low sperm count, Testicular mass, Seminoma, US, U/S, Laparoscopy, Radical orchiectomy, Sperm studies, Semen cryopreservation.

**Abstract:** This case study illustrates a couple presenting with primary infertility. Female partner's history is significant for chronic pelvic pain and dysmenorrhea. Pelvic examination and ultrasound revealed endometriosis, which was confirmed by laparoscopy. Male partner was diagnosed with low sperm count and testicular mass. During the course of this case study the learner is tested over 20 high yield items. High quality ultrasound and laparoscopic images contribute to better understanding of endometriosis and testicular neoplasm (seminoma).

### Case Study 3: Menopause

**Keywords:** Perimenopausal symptoms, Postmenopause, Menopause, Postmenopausal, Hot flashes, Night sweats, Hormone replacement therapy, Estrogen, Exogenous estrogen, Estrogen replacement therapy.

**Abstract:** This case study illustrates a patient presenting with hot flashes, night sweats and problems with sleeping. Pelvic examination, lab findings and ultrasound were within the normal limits. Patients with menopausal symptoms that interfere with their ability to participate in everyday life should be evaluated for their ability to take hormone replacement therapy. A contraindication for HRT is abnormal vaginal bleeding, that must be evaluated to find the cause. During the course of this case study the learner is tested over 20 high yield items. High quality ultrasound images contribute to better understanding of abnormal uterine bleeding in perimenopausal period.

### Case Study 4: Osteoporosis

**Keywords:** Postmenopause, Postmenopausal, Estrogen deficiency, Bone mineral density, Osteopenia, Osteoporosis,

Central DXA, DEXA, Bone scan, Bisphosphonates, Osteoporotic fracture, Vitamin D, Calcium, Alendronate, Raloxifene.

**Abstract:** This case study illustrates a menopausal patient presenting for screening for osteoporosis. Pelvic examination and lab findings were within the normal limits. Central DXA revealed osteoporosis. During the course of this case study the learner is tested over 20 high yield items. High quality central DXA images contribute to better understanding of osteopenia and osteoporosis.

### Case Study 5: Vulvar Pain

**Keywords:** Postmenopause, Postmenopausal, Menopause, Chronic pelvic pain, Dysmenorrhea, Vulvodynia, Lichen sclerosus, Lubricants, Lidocaine cream, Tricyclic antidepressants, TCA.

**Abstract:** This case study illustrates a menopausal patient presenting with chronic vulvar pain. During the course of this case study the learner is tested over 20 high yield items. High quality histology and microbiology images contribute to better understanding of differential diagnosis of vulvar pain and discomfort.

### Case Study 6: Pelvic Floor Relaxation

**Keywords:** Postmenopause, Postmenopausal, Menopause, Pelvic floor relaxation, Descending uterus, Rectocele, Enterocoele, Cystocele, Urethrocele, Uterine prolapse, Pelvic floor muscles, Kegel's exercises, Pessary, Vaginal mass, Weak pelvic floor.

**Abstract:** This case study illustrates a menopausal patient presenting with symptoms of pelvic floor relaxation. Nonsurgical and surgical therapeutic options for pelvic floor relaxation are presented and discussed. During the course of this case study the learner is tested over 20 high yield items. High quality medical images and illustrations contribute to a better understanding of the anatomy of the pelvic floor.

### Case Study 7: Interstitial Cystitis

**Keywords:** Urinary incontinence, Urinary frequency, Urinary urgency, Bladder pain, Bladder discomfort, Lower abdominal pain, Urinalysis, Urine culture, Interstitial cystitis, Cystoscopy, Intravesical therapy, Intravesical instillation, Bladder ulceration, Ulcerated bladder mucosa.

**Abstract:** This case study illustrates a reproductive age multiparous patient presenting with urinary urgency and bladder pain. Her symptoms and laboratory findings were indicative of interstitial cystitis. During the course of this case study the learner is tested over 20 high yield items

created to facilitate the differential diagnosis of interstitial cystitis. High quality cystoscopy image contributes to better understanding of the pathophysiology of this entity.

### Case Study 8: Abnormal Pap Smear

**Keywords:** Pap smear, Cervical biopsy, Cervix, CIN, Cervical cancer screening, Cervical cancer risk factors, HPV infection, High risk HPV serotypes, Chlamydial infection, Colposcopy, HPV transmission and prevention, Precancerous, Cervical lesion, Cryotherapy.

**Abstract:** This case study illustrates a reproductive age patient presenting for assessment of secondary infertility. Her last pelvic examination, including Pap smear was 5 years ago. Her HPV assay is positive for high risk HPV serotypes, as well as *Chlamydia trachomatis* culture. During the course of this case study the learner is tested over 20 high yield items created to improve the understanding of the initial management of a patient with abnormal Pap smear. High quality cytology and histology slides contribute to better understanding of the pathophysiology of precancerous lesions of the cervix and cervical cancer.

### Case Study 9: Breast Mass

**Keywords:** Breast mass, Breast lump, Fibrocystic breast disease, Mammography, Breast US, Breast U/S, Breast tumor, Fine needle aspiration, Benign breast lesions, Inflammatory breast disorders, Breast carcinoma, Mammography, Breast ultrasound, Ultrasound-guided biopsy, Genetic screening for breast cancer, Classification of breast cancer, Clinical staging of breast cancer, Follow-up recommendations for breast cancer patients.

**Abstract:** This case study illustrates a female patient presenting with a breast mass which was discovered at the time of her self-examination. Physical exam and mammography confirmed the presence of a right breast mass. Ultrasound-guided biopsy was performed and histology revealed breast cancer. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of breast masses. High quality images of diagnostic procedures and gross anatomy specimen of breast cancer contribute to better understanding of the management and therapy of the patients presenting with palpable breast lesions.

### Case Study 10: Pelvic Inflammatory Disease

**Keywords:** Vaginal discharge, Whiff test, Pelvic US, Pelvic U/S, Transvaginal US, Acute abdominal and pelvic pain, Sexually transmitted disease, Pelvic inflammatory disease (PID), STD/PID risk factors, Gram staining, Cervical

cultures, Wet mount, Pelvic ultrasound, Prevention of STD/PID, Therapy and management of PID, Fitz-Hugh-Curtis.

**Abstract:** This case study illustrates a young female patient presenting to the emergency department with vaginal discharge and severe abdominal and pelvic pain. Her history is significant for high risk sexual behavior. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis acute abdominal/pelvic pain and vaginal discharge. High quality images of different diagnostic procedures and microscopic images of various microorganisms contribute to better understanding of the differential diagnosis and management of the patients with sexually transmitted and pelvic inflammatory diseases.

### Case Study 11: Genital Herpes

**Keywords:** Herpes simplex virus, HSV, HSV-1, HSV type 1, HSV-2, HSV type 2, Genital herpes, Genital herpes in pregnancy, Constitutional and local symptoms, Primary infection, Antiviral therapy, Acyclovir, HSV transmission, Fetal infection with HSV-2, Congenital herpes, Herpetic outbreak, Vesicles, Vaginal ulcers, Sexually transmitted diseases.

**Abstract:** This case study illustrates a young pregnant female in the third trimester of pregnancy presenting with painful vesicles in the vulvar and vaginal areas. The patient was diagnosed with HSV2 infection. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of genital herpes and other sexually transmitted diseases. High quality microscopic images contribute to better understanding of the differential diagnosis of the vaginal and vulvar lesions and management of genital herpes.

### Case Study 12: Menorrhagia

**Keywords:** Menorrhagia, Metrorrhagia, Anemia, Primary dysmenorrhea, Secondary dysmenorrhea, Prolonged periods, Enlarged uterus, Uterine fibroids, Leiomyomas, Ultrasound, NSAID, GnRH agonists, Uterine fibroids/leiomyoma follow-up, Leiomyosarcoma, Abnormal uterine bleeding, Excessive vaginal bleeding, Painful menstrual cycle, US, U/S, Nonsteroidal anti-inflammatory drugs, Fibroids, Asymmetrically enlarged uterus.

**Abstract:** This case study illustrates a reproductive age patient presenting with heavy menstrual flow and pain. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of menorrhagia. High quality pelvic ultrasound images, photos of gross anatomy specimen and histology images contribute to better understanding of the differential diagnosis of uterine fibroids.

### Case Study 13: Contraception Counseling

**Keywords:** Annual pelvic exam, Contraception, Contraception counseling, Unintended pregnancy rate, Combined oral contraception, Birth control pills, Benefits, Complications, Venous thromboembolism, Contraindications, Compliance, Failure rate, Progestin only pills, Depot medroxyprogesterone acetate, Barrier contraception, Condoms, Diaphragm, Intrauterine device, Levonorgestrel IUD, Permanent contraception, Sterilization, Contraceptives, OCP, Oral contraceptives, Contraception counseling, DVT risk, Estrogen, Hypercoagulable state.

**Abstract:** This case study illustrates a reproductive age patient presenting for contraception counseling. During the course of this case study the learner is tested over 20 high yield items created to improve the understanding of the mechanism of action for different contraceptive methods. Clinical vignettes facilitate problem-based learning and understanding of the risks, benefits and contraindications of contraceptive use.

### Case Study 14: Emergency Contraception

**Keywords:** Unprotected intercourse, Barrier contraception, Condom, Emergency contraception, Day after pill, Patient education, Yuzpe method, Levonorgestrel, Copper IUD instillation, Follow-up, Morning after pill, Plan B, Prevention of pregnancy.

**Abstract:** This case study illustrates a young female patient presenting for counseling 12 hours after an unprotected intercourse. During the course of this case study the learner is tested over 20 high yield items created to improve the understanding of the mechanism of action of different types of emergency contraception. Clinical vignettes facilitate problem-based learning and understanding of the benefits and side effects of emergency contraception.

### Case Study 15: Pelvic Pain in a Patient with an Intrauterine Device

**Keywords:** Chronic abdominal pain, Chronic pelvic pain, Acute abdominal pain, Acute pelvic pain, IUD, Copper IUD, Levonorgestrel IUD, LNG IUD, IUD complications, Dysmenorrhea, Pelvic ultrasound, X-ray, Laparoscopy, IUD dislocation, Uterine perforation, IUD migration, Intrauterine device, Reproductive cause of lower abdominal pain, Differentiating causes of pelvic pain.

**Abstract:** This case study illustrates a reproductive age patient presenting with chronic left lower abdominal and pelvic pain. For 2 years she has used a copper IUD for contraception. During the course of this case study the

learner is tested over 20 high yield items created to improve clinical reasoning of the complications of intrauterine contraception. Clinical vignettes and high resolution ultrasound and laparoscopic images facilitate problem-based learning and understanding of the IUD complications, such as dysmenorrhea, menorrhagia, infection and uterine perforation.

### Case Study 16: Ovarian Cancer

**Keywords:** Chronic abdominal pain, Chronic pelvic pain, Abdominal discomfort, Abdominal fullness, Irritable bowel syndrome, Liver disease, Cirrhosis, B-mode ultrasound, Color Doppler ultrasound, Neovascularization, Abdominal CT, Pelvic CT, Tumor markers, Alpha fetoprotein, Beta-hCG, CA-125, Ovarian neoplasm, Ovarian cancer, Cytoreduction, Cisplatin, Follow-up, Carcinoma, Adenocarcinoma, US, U/S, CA-125 marker, Ovarian tumor, Ovarian cancer incidence and mortality.

**Abstract:** This case study illustrates a postmenopausal patient presenting with vague abdominal pain and a feeling of fullness. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of ovarian lesions. High quality images of different diagnostic studies (pelvic ultrasound, color Doppler ultrasound, CT) and histology slides contribute to better understanding of the pathophysiology, symptoms and management of the patients with ovarian malignancy.

### Case Study 17: Ovarian/Adnexal Torsion

**Keywords:** Acute abdominal pain, Acute pelvic pain, Ectopic pregnancy, Appendicitis, Ovarian torsion, Adnexal torsion, STD/PID, Transvaginal ultrasound, Color Doppler ultrasound, Follicular cyst, Hemorrhagic cyst, Ruptured ovarian cyst, Dermoid cyst, Cystic teratoma, Laparoscopy, US, U/S, Differentiating lower abdominal pain, Ovarian ischemia, Reproductive tract ischemia.

**Abstract:** This case study illustrates a young reproductive age patient presenting with acute abdominal and pelvic pain. She also complains of nausea and vomiting. Her pregnancy test is negative. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of acute abdominal and/or pelvic pain in nonpregnant patients. High quality images of different diagnostic studies (pelvic ultrasound, color Doppler ultrasound, CT) and histology slides contribute to better understanding of the pathophysiology, clinical presentation and management of the patients with adnexal/ovarian torsion.

### Case Study 18: Ovarian Torsion in Pregnancy

**Keywords:** Acute abdominal pain, Acute pelvic pain, Beta-hCG, Intrauterine pregnancy, Physiologic pain in pregnancy, Hyperemesis gravidarum, Corpus luteum cyst, Ruptured ovarian cyst, Ovarian torsion, Ovarian hyperstimulation syndrome, Transvaginal ultrasound, Color Doppler ultrasound, Laparoscopy, Ovarian ischemia, Adnexal torsion, Adnexal ischemia.

**Abstract:** This case study illustrates a pregnant patient at 15 weeks gestation presenting with excruciating abdominal and pelvic pain. So far her pregnancy was uncomplicated. She also complains of nausea and vomiting. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of acute abdominal and/or pelvic pain in pregnancy. High quality images of pelvic ultrasound, color Doppler ultrasound and laparoscopic procedures contribute to better understanding of the pathophysiology, symptoms and management of the patients with ovarian torsion in pregnancy.

### Case Study 19: Ectopic Pregnancy

**Keywords:** Acute abdominal pain, Acute pelvic pain, Beta-hCG, Bleeding in pregnancy, Abortion, Intrauterine pregnancy, Ectopic pregnancy, Risk factors for ectopic pregnancy, Transvaginal ultrasound, Color Doppler ultrasound, Laparoscopy, Extrauterine pregnancy, US, U/S, Ruptured ectopic pregnancy.

**Abstract:** This case study illustrates a pregnant patient at 7 weeks gestation presenting with acute abdominal and pelvic pain. She also complains of abnormal uterine bleeding. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of acute abdominal and/or pelvic pain in pregnant patients. High quality images of pelvic ultrasound, color Doppler ultrasound and endoscopic images contribute to better understanding of the pathophysiology, symptoms and management of ectopic pregnancy.

### Case Study 20: Postmenopausal Genital Tract Bleeding

**Keywords:** Postmenopausal bleeding, Risk factors for endometrial cancer, Breast cancer, Tamoxifen, Diabetes mellitus, Hypertension, Focal endometrial thickening, Endometrial polyp, Diffuse endometrial thickening, Endometrial hyperplasia, Endometrial cancer, Transvaginal ultrasound, Color Doppler ultrasound, Neovascularization, Clinical staging of endometrial cancer, Surgery, Adjuvant therapy, Endometrial adenocarcinoma, Endometrial biopsy.

**Abstract:** This case study illustrates a postmenopausal patient presenting with abnormal genital tract bleeding. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of postmenopausal genital tract bleeding. High quality images of pelvic ultrasound, color Doppler ultrasound and histology slides contribute to better understanding of the pathophysiology, clinical presentation and management of patients with endometrial carcinoma.

### Case Study 21: Screening in Pregnancy

**Keywords:** Chromosomal abnormality, Risk factors, Advanced maternal age, First trimester ultrasound, Nuchal translucency, Biochemical screening, Triple test, Ashkenazi Jewish descents, Down syndrome, Neural tube defects, Trisomy 13, Trisomy 18, Maternal-fetal alpha protein, Trisomy 21, High risk pregnancy, Chromosomal defect.

**Abstract:** This case study illustrates a pregnant patient presenting at 10 weeks gestation for her first prenatal visit. She is concerned about the risk to her fetus of a chromosomal abnormality due to her advanced maternal age. During the course of this case study the learner is tested over 20 high yield items created to improve the understanding of different screening methods in pregnancy, such as biochemical and ultrasound screening. High quality ultrasound images and clinical vignettes contribute to better understanding of the risk factors for fetal anomalies and chromosomal defects, such as Down syndrome, and trisomies 13 and 18.

### Case Study 22: Fetal Anomaly

**Keywords:** Early pregnancy complications, First trimester bleeding, Spontaneous abortion, Threatened abortion, Missed abortion, Complete abortion, Incomplete abortion, Mid-gut herniation, Omphalocele, Gastroschisis, Fetal anomaly, Genetic counseling, Chromosomal defect, High risk pregnancy, Vaginal bleeding, Miscarriage, Karyotyping, Karyotype analysis.

**Abstract:** This case study illustrates a pregnant patient presenting at 10 weeks gestation because of vaginal bleeding. During the course of this case study the learner is tested over 20 high yield items created to improve the understanding of different types of pregnancy complications in first trimester. Longitudinal ultrasound assessment of the fetus revealed mid-gut herniation which has not returned to the abdomen. High quality ultrasound images and clinical vignettes contribute to better understanding and differentiation of GI fetal anomalies (for example omphalocele vs gastroschisis) and clinical implications of this finding (need for karyotyping).

### Case Study 23: Pre-eclampsia

**Keywords:** Pre-eclampsia, Moderate pre-eclampsia, Severe pre-eclampsia, Edema hypertension, Hypertensive disorders in pregnancy, Risk factors for pre-eclampsia, Pathogenesis of pre-eclampsia, Placental abruption, HELLP syndrome, Ultrasound assessment, Doppler studies, Magnesium sulfate, Complications of pre-eclampsia, Hypertension-elevated liver enzymes low platelets, US, Seizure prophylaxis, MgSO<sub>4</sub>.

**Abstract:** This case study illustrates a pregnant patient presenting at 32 weeks of gestation with severe headache, blurred vision, epigastric pain, nausea and vomiting. During the course of this case study the learner is tested over 20 high yield items created to improve the understanding of the diagnostic criteria and evaluation of the patients with different types of hypertensive disorders in pregnancy. Clinical vignettes facilitate problem-based learning and understanding of the pathogenesis, risk factors and clinical signs and symptoms of pre-eclampsia. Step-by-step approach allows application of the diagnostic criteria for pre-eclampsia and differentiation between moderate and severe pre-eclampsia.

### Case Study 24: Fever in Pregnancy

**Keywords:** Fever in pregnancy, Dysuria, Urinary tract infection, Pyelonephritis, Chorioamnionitis, Postpartum endometritis, Neonatal sepsis, Abdominal pain, Infection, sepsis, SIRS, Infection in pregnancy.

**Abstract:** This case study illustrates a pregnant patient presenting at 34 weeks of gestation to the labor and delivery with diffuse abdominal pain, fever and dysuria. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of fever in pregnant patients. Clinical vignettes facilitate problem-based learning and understanding of the pathophysiology, risk factors and clinical signs and symptoms of the urinary tract infection and chorioamnionitis. Step-by-step approach improves clinical understanding of the pathogenesis, clinical presentation and histological appearance of chorioamnionitis, and better correlation of this entity with postpartum maternal complications (e.g. endometritis) and neonatal complications (e.g. sepsis).

### Case Study 25: Gestational Trophoblastic Disease

**Keywords:** Bleeding in pregnancy, Pregnancy failure, Gestational trophoblastic disease, Complete mole, Partial mole, Choriocarcinoma, Theca lutein cysts, Risk factors, Sites of metastases for malignant GTD, Ultrasound, Beta-hCG, Methotrexate, Follow-up, Teratoma, Dermoid, Snowstorm, Elevated beta-hCG, US, Dilatation and curettage, DC, D + C, D & C.

**Abstract:** This case study illustrates a pregnant patient presenting at 16 weeks of gestation to the emergency room with painless vaginal bleeding. She also complains of nausea and vomiting. During the course of this case study the learner is tested over 20 high yield items created to improve the differential diagnosis of gestational trophoblastic disease. Clinical vignettes, ultrasound images, gross anatomy slides and medical illustrations facilitate problem-based learning and understanding of the pathophysiology, risk factors and clinical signs and symptoms of complete and partial mole and choriocarcinoma. Step-by-step approach improves clinical understanding of the pathogenesis, clinical presentation, histological appearance and management of different types of gestational trophoblastic disease.

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