



BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Daniel W. Skupski, MD	POSITION TITLE Professor, Obstetrics and Gynecology Weill Cornell Medical School
eRA COMMONS USER NAME	

EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Wayne State University. Detroit, MI	None	1976-77	Undergraduate
Albion College. Albion, MI	B.A.	1977-80	Biology
Wayne State Univ. Detroit, MI	None	1980-81	Molecular biology
Univ. of Michigan Medical School. Ann Arbor, MI	M.D.	1981-85	Medicine
Hurley Medical Center. Flint, MI		1985-89	Residency
Cornell University Med. Ctr., New York, NY		1992-94	MFM Fellowship

Positions and Honors

Positions:

1989-91 Attending Physician, Dept. Ob/Gyn, 82nd FTW Hospital, Williams AFB, AZ
 1991-92 Chief, Dept. Ob/Gyn, 82nd FTW Hospital, Williams AFB, AZ
 1992-94 Fellow, Maternal Fetal Medicine, Cornell University Med. Ctr.
 1994-2010 Director of Fetal Assessment, Weill-Cornell Med. Ctr.
 1994-99 Assistant Professor, Obstetrics & Gynecology, Cornell Univ. Med. School
 1995-98 Assistant Ob/Gyn Residency Program Director, Weill-Cornell Med. Ctr.
 1996-current Director of Maternal Fetal Medicine, New York Hospital Queens
 1998-current Associate Director, Maternal-Fetal Medicine, Weill-Cornell Med. Ctr.
 1999-2010 Associate Professor, Obstetrics & Gynecology, Weill Med. College of Cornell University
 2001-current Associate Chairman, Dept. Ob/Gyn, New York Hospital Queens
 2001-current Director Continuous Quality Improvement, Dept. Ob/Gyn, New York Hospital Queens
 2010-current Professor, Obstetrics and Gynecology, Weill Med. College of Cornell University

Other Experience and Honors:

2002-2007 NIH Data Safety Monitoring Board—PRIDE study of congenital heart block—PR Interval and Dexamethasone Evaluation
 2005 Physician Teaching Award, Dept. of Obstetrics and Gynecology

2005-06	Top 10% of journal reviewers. Obstetrics and Gynecology.
2005-2010	Top Doctors, New York Metro Area, Castle-Connolly Medical Ltd.
9/2007-current	World Association of Perinatal Medicine Executive Board Member
10/2007-current	Editorial Board, Ultrasound in Obstetrics and Gynecology

Professional Memberships:

1993-current	Fellow	American Congress of Obstetricians and Gynecologists
1995-current	Member	International Society of Ultrasound in Obstetrics and Gynecology
2001-current	Senior Member	American Institute of Ultrasound in Medicine
1995-current	Member	International Fetal Medicine and Surgery Society
1999-current	Regular Member	Society for Maternal Fetal Medicine

Contribution to Science

1) Clinical Obstetrics. Much of my work began as a MFM fellow and junior attending MFM faculty member at Cornell and my duties related to clinical obstetrics. These were bread and butter issues for the practicing MFM and obstetrician, including the interpretation of fetal heart rate monitoring, preeclampsia, induction of labor and cerclage. We identified important methods for safety, diagnostic accuracy or efficacy for these areas. We improved knowledge of the physiology of cervical changes during induction of labor, and improved the knowledge of how implantation relates to the subsequent development of preeclampsia. I was primary investigator for each of these publications.

- a. **Skupski D**, Chervenak F, McCullough L, Horowitz S. Cesarean delivery for intrapartum fetal heart rate abnormalities: incorporating survey data into clinical judgment. *Obstet Gynecol* 1996;88:60-4. PMID: 8684764.
- b. **Skupski D**, Nelson S, Kowalik A, Polaneczky M, Smith-Levitin M, Hutson J, Rosenwaks Z. Multiple gestations from in vitro fertilization: successful implantation alone is not associated with subsequent preeclampsia. *Am J Obstet Gynecol* 1996;175:1029-32. PMID: 8885770.
- c. **Skupski DW**, Rosenberg CR, Eglinton GS. Intrapartum fetal stimulation tests: a meta-analysis. *Obstet Gynecol* 2002;99:129-34. PMID: 11777523.
- d. **Skupski DW**, Normand N, Eglinton GS, Witkin SS. Association of cyclooxygenase-2 and interleukin-1 receptor antagonist gene polymorphisms with the time interval between labor induction and delivery. *Am J Obstet Gynecol* 2008;199:296.e1-296.e5. PMID: 18771989.
- e. **Skupski D**, Lin S, Reiss J, Eglinton G. Extremely short cervix in the second trimester: bed rest or modified Shirodkar cerclage? *J Perinat Med* 2014;42:55-9. PMID: 23924522.

2) Fetal Assessment. Another aspect of my work relates to the assessment of the fetus by ultrasound, and began in the setting where the use of ultrasound routinely during pregnancy was appropriately called into question by the RADIUS study. The specific areas of study were the importance of ultrasound for routine use in anomaly detection, gestational age assessment, and the reliability of biometric measurements of the fetus. We found that routine anomaly detection was efficacious and important, and both gestational age assessment and reliability of biometric fetal measurements were highly accurate. These publications illuminated nuances of practice or approach that were important for the use of ultrasound in pregnancy. I was the primary investigator, co-investigator or senior investigator in each of these publications.

- a. **Skupski D**, Newman S, Edersheim T, Hutson JM, Udom-Rice I, Chervenak F, McCullough L. The impact of routine obstetric ultrasound in a low risk population. *Am J Obstet Gynecol* 1996;175:1142-5
- b. Chervenak FA, **Skupski DW**, Romero R, Myers MK, Smith-Levitin M, Rosenwaks Z, Thaler HT. How accurate is fetal biometry in the assessment of fetal age? *Am J Obstet Gynecol* 1997;178:678-87.
- c. Perni SC, Chervenak FA, Kalish RB, Magherini-Rothe S, Predanic M, Streltsoff J, **Skupski DW**. Intraobserver and interobserver reproducibility of fetal biometry. *Ultrasound Obstet Gynecol* 2004;24:654-8.

- 2) Twin-Twin Transfusion Syndrome. A major thrust for most of my career has been the study of twin-twin transfusion syndrome. The diagnosis was highly subjective, the most appropriate or efficacious therapy was highly contentious, and large collaborative trials were unheard of as I began my career. Important details in the history of diagnosis and treatment that impacted understanding of which advances were responsible for improvements in treatment, improved understanding of the physiology, and predictability of demise by ultrasound derived factors were discovered through my work. I was primary or co-investigator in each of these publications.
- a. **Skupski, D.** Changes in survival of preterm singletons versus twins delivered after twin-twin transfusion syndrome over the calendar years 1970-1994. *Fetal Diagn Ther* 1998;13:334-338. PMID: 9933814.
 - b. **Skupski DW**, Gurushanthaiah K, Chasen S. The effect of treatment of twin-twin transfusion syndrome on the diagnosis-to-delivery interval. *Twin Research* 2002;5:1-4. PMID: 11893274.
 - c. Chasen ST, Al-Kouatly HB, Ballabh P, **Skupski DW**, Chervenak FA. Outcomes of dichorionic triplet pregnancies. *Am J Obstet Gynecol* 2002;186:765-7. PMID: 11967504.
 - d. **Skupski DW**, Luks FI, Walker M, Papanna R, Bebbington M, Ryan G, O'Shaughnessy R, Moldenhauer J, Bahtiyar O. Preoperative predictors of death in twin-to-twin transfusion syndrome treated with laser ablation of placental anastomoses. *Am J Obstet Gynecol* 2010;203:388.e.1-11. PMID: 20691964.
 - e. **Skupski DW**, Luks FI, Papanna R, Walker M, Bebbington M, Ryan G, O'Shaughnessy R, Moldenhauer J, Bahtiyar O; North American Fetal Therapy Network (NAFTNet). Laser ablation of placental anastomoses in twin-to-twin transfusion syndrome: preoperative predictors of death by recursive partitioning. *Prenat Diagn* 2013 Mar;33(3):279-83. doi: 10.1002/pd.4059. Epub 2013 Feb 6. PMID: 23386469
- 3) Reproductive immunology. An historical idea was that amniotic fluid was sterile and amniocytes available for the diagnosis of aneuploidy by amniocentesis were inert. Through the use of translational research in collaboration with the reproductive immunology laboratory at Cornell, we were able to study this intensively over many years. We discovered and characterized the robust activity of amniocytes as a part of the innate immune system during pregnancy. I was co-investigator on each of these publications.
- a. Asea A, Jean-Pierre C, Rao P, Linhares IM, **Skupski D**, Witkin SS. Heat Shock Protein-Containing Exosomes in Mid-Trimester Amniotic Fluids. *J Reprod Immunol* 2008;79:12-17. PMID: 18716562.
 - b. Sezen D, Bongiovanni AM, Jean-Pierre C, Linhares IM, **Skupski D**, Witkin SS. Ex vivo cytokine production by whole mid-trimester amniotic fluid. *J Reprod Immunol* 2008;78:22-27. PMID: 17913239.
 - c. Witkin SS, Linhares IM, Bongiovanni AM, Herway C, **Skupski D**. Unique alterations in infection-induced immune activation during pregnancy. *BJOG* 2011;118:145-53. PMID: 21054766.
 - d. Witkin SS, Chervenak J, Bongiovanni AM, Herway C, Linhares I, **Skupski D**. Influence of mid-trimester amniotic fluid on endogenous and lipopolysaccharide-mediated responses of mononuclear lymphoid cells. *Am J Reprod Immunol* 2012;67:28-33. PMID: 21682792.
 - e. Benn K, Passos M, Jayaram A, Harris M, Bongiovanni AM, **Skupski D**, Witkin SS. Association Between Neurotrophin 4 and Long-Chain Polyunsaturated Fatty Acid Levels in Mid-Trimester Amniotic Fluid. *Reprod Sci* 2014 Mar 7. [Epub ahead of print] PMID: 24607879.
- 4) Major Obstetric Hemorrhage. The increasing cesarean delivery rate and the associated maternal morbidity and mortality prompted my focus on the evaluation of women at risk for major obstetric hemorrhage and preparation for their care at the time of delivery. My focus has been the overarching changes to hospital systems that are necessary, including administrative support, educational persistence and team building. I was the primary investigator or co-investigator for these studies.
- a. Chervenak F, McCullough L, **Skupski D**. An ethical justification for emergency coerced cesarean delivery. *Obstet Gynecol* 1993;82:1029-35. PMID: 8233254.
 - b. **Skupski DW**, Lowenwirt IP, Weinbaum FI, Brodsky D, Danek MM, Eglinton GS. Improving hospital systems for the care of women with major obstetric hemorrhage. *Obstet Gynecol* 2006;107:977-83. PMID: 16648399.

- c. Grunebaum A, Dudenhausen J, Chervenak FA, **Skupski D**. Reduction of cesarean delivery rates after implementation of a comprehensive patient safety program. *J Perinat Med* 2013;41(1):51-5. PMID: 23072842.

5) Randomized controlled trials. As I began my career, randomized controlled trials were few and far between in the field of obstetrics and gynecology. As the call for a more evidence-based approach was echoed in our field, I became involved and produced or collaborated in the following trials. The importance of an evidence-based approach to practice has also been an important thrust in my teaching of students and residents. Details of the approach and efficacy of a now historic approach to treatment of twin-twin transfusion syndrome were elucidated, a less-time and labor intensive approach to intrapartum treatment of blood sugar control in insulin-requiring gestational diabetes was highlighted, and the frequency and severity of fetal heart rate changes after regional analgesia for labor were pinpointed through this work. I was primary investigator, co-investigator or senior investigator in each of these publications.

- a. Moise KJ Jr, Dorman K, Lamvu G, Saade GR, Fisk N, Dickinson JE, Wilson RD, Gagnon A, Belfort MA, O'Shaughnessy RO, Chitkara U, Hassan SS, Johnson A, Sciscione A, **Skupski DW**. A randomized trial of septostomy versus amnioreduction in the treatment of twin oligohydramnios-polyhydramnios sequence. *Am J Obstet Gynecol* 2005 Sep;193(3 Pt 1):701-7. PMID: 16150263.
- b. Rosenberg V, Eglinton GS, Rauch E, **Skupski DW**. Intrapartum maternal glycemic control in women with insulin requiring diabetes: a randomized clinical trial of rotating fluids vs. insulin drip. *Am J Obstet Gynecol* 2006;195:1095-9. PMID: 16893507.
- c. **Skupski DW**, Abramovitz S, Samuels J, Pressimone V, Kjaer K. Adverse effects of combined spinal epidural versus traditional epidural for labor: a randomized trial. *International Journal of Gynecology and Obstetrics* 2009;106:242-5. PMID: 19481203.