

CURRICULUM VITAE

Jeffrey L. Segar MD

**Professor
Department of Pediatrics
Division of Neonatology**

OFFICE ADDRESS:

Children's Wisconsin - Milwaukee Hospital
8915 W Connell Court
Milwaukee, WI 53226

EDUCATION:

1978 - 1980 Cornell University, Ithaca, NY
1980 - 1982 B.S Zoology, University of Wisconsin, Madison
1982 - 1986 M.D. Medicine, University of Wisconsin, Madison

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

1986 - 1989 Residency, Pediatrics, University of Iowa, Iowa City, IA
1989 - 1992 Fellow, Neonatology, University of Iowa, Iowa City, IA

FACULTY APPOINTMENTS:

11/1992 - 06/1998 Assistant Professor of Pediatrics, University of Iowa, Iowa City, IA
07/1998 - 06/2004 Associate Professor of Pediatrics, University of Iowa, Iowa City, IA
07/1999 - 2006 Medical Director, Pediatric ECMO Service, University of Iowa, Iowa City, IA
07/2002 - 12/2002 Visiting Associate Professor, Department of Physiology and Pharmacology, University of New South Wales, Sydney, Australia
07/2004 - 04/2019 Professor of Pediatrics, University of Iowa, Iowa City, IA
01/2006 - 12/2016 Director, Division of Neonatology, University of Iowa, Iowa City, IA
05/2011 - 04/2019 Director, Iowa Statewide Perinatal Care Program, Iowa Department of Public Health, IA
04/2013 - 04/2015 Vice Chair for Education, Pediatrics, University of Iowa, Iowa City, IA
04/2019 - Present Professor, Associate Chair, Pediatrics, Medical College of WI, Milwaukee, WI
11/2019 - Present Chief (Interim), Division of Adolescent Medicine, Medical College of WI, Milwaukee, WI

EDUCATIONAL ADMINISTRATIVE APPOINTMENTS:

1993 - 1995 Mentor for Undergraduate Scholar Assistantship Program, University of Iowa
1993 - 1998 Pediatric Therapy 090: 242 (1 lecture, 3 h), Biannual seminars in neonatal physiology, University of Iowa
1996 - 1997 Mentor for Undergraduate Scholar Assistantship Program, University of Iowa
1997 - 1998 Facilitator, Foundations for Clinical Practice, Case-Based Learning I (CBLI), Fall, 1997, University of Iowa
1998 - 1999 Clinician Mentor, Introduction to Clinical Disciplines, University of Iowa
1999 - 2010 Seminars on shock, resuscitation, neonatal pharmacology and ECMO for NICU nurse practitioners, University of Iowa
1999 - Present Lectures in Pediatric Residents Core Lecture Series, University of Iowa
2000 - 2001 Facilitator, Foundations for Clinical Practice, Case-Based Learning I (CBLI), University of Iowa
2001 - 2002 Clinician Mentor, Foundations of Clinical Practice, Spring 2002, University of Iowa
2003 - 2004 Facilitator, Foundations for Clinical Practice, Case-Based Learning II (CBLII), Spring 2004, University of Iowa
2004 - 2005 Facilitator, Foundations for Clinical Practice, Case-Based Learning II (CBLII), Spring 2005,

University of Iowa
 2005 - 2006 Facilitator, Foundations for Clinical Practice, Case-Based Learning II (CBLII), Spring 2006, University of Iowa
 2006 - 2007 Facilitator, Foundations for Clinical Practice, Case-Based Learning II (CBLII), Spring 2007, University of Iowa
 2010 - 2011 Facilitator, Foundations for Clinical Practice, Case-Based Learning II (CBLII), Spring 2011, University of Iowa
 2011 - 2012 Facilitator, Foundations for Clinical Practice, Case-Based Learning II(CBLII), Spring 2012, University of Iowa
 2012 - 2013 Facilitator, Foundations for Clinical Practice, Case-Based Learning II (CBLII), Spring 2013, University of Iowa
 2013 - 2014 Facilitator, Medicine and Society I, Fall 2013, University of Iowa
 2013 - 2014 Facilitator, Medicine and Society II, Case-Based Learning II(CBL II), Spring 2014, University of Iowa
 2014 - 2015 Facilitator, Medicine and Society II, Case-Based Learning II (CBL II), Spring 2015, University of Iowa
 2014 - 2015 Facilitator, Medicine and Society I, Fall 2014, University of Iowa
 2015 - 2019 Annual Lecturer, MOHD 3 course. “Fetal and Transitional Physiology”, “Fetal Toxicology and Teratogens”, University of Iowa
 2015 - 2016 Facilitator, Medicine and Society II, Case-Based Learning II (CBL II), Spring 2016, University of Iowa
 2016 - 2017 2016-2017 Facilitator, Medicine and Society II, Case-Based Learning I (CBL II), Spring 2017, University of Iowa
 2017 Facilitator, Medicine and Society II, Case-Based Learning I CBL I), Fall 2017, University of Iowa

HOSPITAL AND CLINICAL ADMINISTRATIVE APPOINTMENTS:

1990 Attending Neonatologist, Pediatrics, Neonatology, University of Iowa
 1995 - 1996 Attending physician, Pediatrics, Pediatric ICU, University of Iowa
 1995 ECMO Neonatologist, Pediatrics, Neonatology, University of Iowa
 1998 - 2006 Medical Director, ECMO Program, Pediatrics, Neonatology, University of Iowa
 2019 - Present Attending Neonatologist, Pediatrics, Neonatology, Medical College of Wisconsin

SPECIALTY BOARDS AND CERTIFICATION:

<u>Board Certified</u>	<u>Issue Date</u>	<u>Expiration</u>
	1989	None

<u>Certificates</u>	<u>Issued By</u>	<u>Issue Date</u>	<u>Expiration</u>
Neonatal-Perinatal Medicine		1993	None
Recertification, Neonatal-Perinatal Medicine		2000	None
Recertification, Neonatal-Perinatal Medicine		2007	None
Recertification, Neonatal-Perinatal Medicine		2017	None

<u>Licensure</u>	<u>Number</u>	<u>Issue Date</u>	<u>Expiration</u>
Iowa, Permanent	#26987	1989	None
Wisconsin, Permanent	#70551-20	2019	None

AWARDS AND HONORS:

1986 Graduated with Honors, University of Wisconsin School of Medicine
 1989 - 1990 Training Grant, American Heart Association, Iowa Affiliate, IA-89-F-9
 1990 - 1993 Individual National Research Service Award, NIH, F32 HL-08170

1998 - Present , Included in Best Doctors in America
2004 - Present , Included in Guide to America's Top Pediatricians
2015 Founders Award, Midwest Society for Pediatric Research

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

1986 - Present American Academy of Pediatrics (Member)
1994 - Present Midwest Society for Pediatric Research (Member)
1995 - Present Society for Pediatric Research (Member)
1995 Council for High Blood Pressure Research (Fellow)
1997 - Present Perinatal Research Society (Member)
1998 - Present American Physiological Society (Member)
2005 - Present American Pediatric Society (Member)
2008 - 2009 Perinatal Research Society (President)
2011 - 2019 Iowa Statewide Perinatal Care Program (Director)
2016 - 2017 Midwest Society for Pediatric Research (President)

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorship

1998 - Present Editorial Board, American Journal of Physiology: Regulatory, Integrative & Comparative Physiology.

Ad-Hoc Reviewer

1998 - Present Journal of Applied Physiology, Journal of Developmental Pharmacology & Therapeutics, Pediatric Nephrology, Pediatric Research, J Physiology, Neonatology, Life Sciences, others

1998 - Present American Journal of Physiology (Heart Circ Physiol), Archives of Pediatrics & Adolescent Medicine, Brain Research, Cardiovascular Research, Circulation, Circulation Research, Hypertension,

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2003 - 2019 Research Committee, University of Iowa
2003 - 2006 Admissions Committee, University of Iowa
2003 - 2004 Commercial Payors Contracting Committee, University of Iowa
2004 - 2005 Review and Search Committee for Head, Department of Surgery, University of Iowa
2005 Department of Psychiatry Departmental Review, University of Iowa
2005 - 2011 Executive Committee, University of Iowa
2006 - 2011 Physicians Finance Committee, University of Iowa
2008 - 2009 Department of Microbiology Departmental Review, University of Iowa
2008 - 2012 Executive Director, Search Committee, University of Iowa Children's Hospital
2009 - 2019 Medical Student Appeals Committee, University of Iowa
2009 - 2011 Admissions Committee, University of Iowa
2011 - 2012 Search Committee for Head, Department of Emergency Medicine, University of Iowa
2011 Committee Member, Department of Otolaryngology Departmental Review, University of Iowa
2013 - 2019 Participant, Community & STEM Education Programs, University of Iowa – meet with high school students several times a year to provide overview of pediatric medicine, University of Iowa
2014 - 2015 Search Committee for Head, Department of Anesthesia, University of Iowa
2016 - 2019 Continuing Medical Education Committee, University of Iowa
2016 - 2018 Admissions Committee, University of Iowa

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title:	Fenoldopam to prevent renal dysfunction in indomethacin treated preterm infants
Source:	NIH
Role:	Co- Investigator
PI:	(Relinquished PI as of 04/01/2109 due to relocation)
Dates:	08/2018 - 09/2020

Direct Funds: \$275,000 (R21)

Non-Peer Review

Title: Physiological approach to sodium supplementation in preterm infants
Source: Thrasher Research Fund
PI: G. Sokol
Dates: 03/2019 - 09/2021
Direct Funds: \$400,000

Prior

Peer Review

Title: Regulation of Arterial Baroreflex During Development
Source: NIH
PI: J.L. Segar
Dates: 03/1993 - 02/1998
Direct Funds: \$450,419 (K08)

Title: Ontogeny of the Sympathetic Control of Circulation
Source: AHA
PI: J.L. Segar
Dates: 07/1995 - 06/1998
Direct Funds: \$119,883 (Grant-in-Aid 9501289)

Title: Glucocorticoids and Reflex Control of Autonomic Functions
Source: AHA
Role: Support relinquished 3/1/99 due to overlap with NIH HL59939
PI: J.L. Segar
Dates: 01/1998 - 12/2001
Direct Funds: \$74,791 (Established Investigator Award 9740067N)

Title: Ontogeny and Hormonal Control of Cardiac NADH shuttles
Source: NIH
Role: Co-investigator
PI: T.D. Scholz, M.D.
Dates: 01/1998 - 12/2001
Direct Funds: \$350,000 (R29)

Title: Regulation of the Sympathetic Excitatory Response at Birth
Source: NIH
PI: J.L. Segar
Dates: 04/1998 - 03/2002
Direct Funds: \$699,842 (R01)

Title: Fetal Cardiac Hypertrophy: Vascular/Metabolic Adaptation
Source: NIH
PI: J.L. Segar
Dates: 07/2001 - 06/2005

Direct Funds: \$1,000,000 (R01)
 Title: Early Postoperative Apoptosis After Cardiac Surgery In the Neonate
 Source: AHA
 PI: C.A. Caldarone
 Dates: 01/2002 - 12/2006
 Direct Funds: \$260,000 (Scientist Development Grant)

Title: Kidney Development during Normal and Pathological
 Source: NIH University of Iowa subcontract with Univ. of Virginia
 Role: Co-investigator
 PI: J.R. Robillard
 Dates: 04/2002 - 03/2007
 Direct Funds: \$770,344 (P50)

Title: Ontogeny and Hormonal Control of Cardiac NADH shuttles
 Source: NIH
 Role: Co-investigator
 PI: T.D. Scholz, M.D.
 Dates: 04/2003 - 03/2007
 Direct Funds: \$1,100,000 (R01)

Title: Fetal Programming of Coronary Artery Disease
 Source: NIH
 PI: J.L. Segar
 Dates: 05/2003 - 04/2006
 Direct Funds: \$285,000 (R21)

Title: Mechanisms of Cardiac Remodeling in Offspring of Diabetic Mothers
 Source: NIH
 PI: T. D. Scholz
 Dates: 02/2006 - 11/2010
 Direct Funds: \$200,000 (R01)

Title: Regulation of Fetal Myocyte Development
 Source: NIH
 PI: J.L. Segar
 Dates: 01/2007 - 12/2011
 Direct Funds: \$250,000 (R01)

Title: Multi-Center Trial of Limiting PGY 2 & 3 Resident Work Hours on Patient Safety
 Source: NIH
 PI: J.L. Segar
 Dates: 09/2012 - 01/2018

Non-Peer Review

Title: A Phase 2 Multicenter, Single Dose, Randomized, Double Blind, Placebo Controlled, Parallel Group Study

	Evaluating the Safety and Efficacy of Two Doses of Stannosporfin in Combination with Phototherapy in Neonates
Source:	InfaCare Pharmaceutical Corp
PI:	J.L. Segar
Dates:	2014 - 2016
Title:	Statewide Perinatal Care Program
Source:	Iowa Department of Public Health
Role:	Program Director
Dates:	10/2017 - 09/2018
Direct Funds:	\$344,253

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

National

Mechanisms regulating arterial baroreflex during development. Brody Memorial Colloquium on Brain, Body Fluids and Blood Pressure, University of Iowa Cardiovascular Center, 10/1992

Birth related changes in renal sympathetic nerve activity. Brody Research Colloquium on Brain, Body Fluid Balance and Blood Pressure., University of Iowa Cardiovascular Center, 10/1993

Role and regulation of angiotensin type 1 receptors in pressure overload induced cardiac hypertrophy in fetal sheep, Aspen Conference on Perinatal Research, 09/10/1996 - 09/12/1996

Ontogeny of arterial baroreflex function during development, FASEB Conference on Perinatal Regulation of the Cardiovascular System., Copper Mountain, Co, 08/17/1997 - 08/22/1997

Regulation of sympathetic activity at birth., Cornell University, 12/16/1999 - 12/17/1999

Regulation of sympathetic responses at birth., FASEB Conference on Perinatal Regulation of the Cardiovascular System., Copper Mountain, CO, 06/04/2000 - 06/09/2000

Fetal origins of adult disease, Committee on Research, American Academy of Pediatrics, Chicago, IL, 06/16/2001

Regulation of autonomic responses at birth, University of Texas, San Antonio Department of Physiology Research Conference., 10/29/2001

Fetal origins of adult diseases, University of Michigan, Department of Pediatrics Grand Rounds., 02/07/2002

Role of glucocorticoids in fetal and neonatal neural control of the circulation, FASEB Summer Research Conference on Neural Control of the Circulation, Snowmass, CO, 07/25/2004 - 07/29/2004

Programming of coronary artery dysfunction., Fetal Physiology Satellite Symposium; 2005 Annual Meeting of the Society for Gynecological Investigation., Los Angeles, CA, 03/23/2005

Glucocorticoids and cardiovascular development: Perturbing the fetal environment., Jerry Elliott Memorial Lectureship, South Central Conference of Perinatal Research, Austin, TX, 10/25/2005 - 10/27/2005

Cardiovascular Development: Role of glucocorticoids, Jerry Elliott Memorial Lectureship, Midwest Conference of Perinatal Research., College Corner, OH, 09/19/2006 - 09/21/2006

Developmental Origins of Adult Disease., The Gilbert-Barness Lectureship, Departments of Pathology and Pediatrics, University of Wisconsin, Madison, WI, 05/03/2007

Developmental Origins of Coronary Artery Disease., Western Pharmacology Society Annual Meeting, Waikoloa, HI, 01/28/2008

Intrauterine Development Programs Cardiovascular Disease, Grand Rounds, Indiana University Department of Pediatrics., 02/12/2009

Intrauterine Development Programs Cardiovascular Disease, Department of Pediatrics, University of Utah, 03/01/2010

Gestation Diabetes: Not a Sweet Deal for the Offspring., Department of Pediatrics, University of Utah, 03/02/2010

The biggest risk factor for coronary artery disease may be your mother, The Heart Research Center, Oregon Health & Sciences University, 03/10/2010

Neonatal Hemodynamics – does anybody know what is going on?, Department of Pediatrics, Case Western Reserve University., 03/26/2010

Gestational Diabetes – Long term effects on the offspring, Department of Pediatrics, Case Western Reserve University., 03/26/2010

Gestational Diabetes – Impact on the Offspring., Division of Neonatology Research Conference, Children’s Mercy Hospital., 05/07/2012
Early Origins of Cardiovascular Disease: a neonatologist in a cardiologist’s world., Department of Pediatrics, Children’s Mercy Hospital, 05/07/2012
Gestational Diabetes – Impact on Offspring Physiology., Jerry Elliott Memorial Lectureship, Midwest Conference of Perinatal Research, Chicago, IL, 09/10/2012
Perinatal Influences on Heart Growth and Function, AAP 83rd Perinatal and Developmental Medicine Symposium., Marco Island, FL, 11/07/2013
Gestational Diabetes: Cardiovascular Implications for the Offspring., AAP 83rd Perinatal and Developmental Medicine Symposium, Marco Island, FL, 11/08/2013
Hyperglycemia and Sex Specific Cardiovascular Programming, Annual Meeting, American Society for Pharmacology and Experimental Therapeutics, San Diego, CA, 04/28/2014
Sex Specific Programming of Hypertension, 2016 FASEB Science Research Conference., Big Sky, MT, 06/21/2016
Salt and the Neonate: Friend or Foe., Central Conference on Perinatal Research., Hershey, PA, 09/26/2016
Soggy or Dry – What’s the Most Appropriate?, NEO Conference, Orlando, FL, 02/23/2017
Salt and the Neonate: Friend or Foe., Department of Pediatrics Grand Rounds. Children’s Hospital of Wisconsin, Milwaukee, WI, 03/03/2017
Impact of Kidney Development on Postnatal Growth, 2018 Minnesota Neonatal Nutrition Conference., Minneapolis, MN, 10/05/2018

International

Regulation of sympathetic activity at birth, University of New South Wales, Department of Physiology and Pharmacology Seminar Program, 08/13/2002
Programming Alters Reactive Oxygen Species Signaling in the Cardiovascular System., 5th International Congress on Developmental Origins of Health and Disease, Perth Australia, 11/06/2007
Conference Leader and Speaker: “New Challenges in Advance of Neonatology”, Riga, Latvia, 08/14/2015 - 08/18/2015
Conference on Clinical Neonatology, Issa Trust Foundation, Annotto Bay, Jamaica, 11/01/2015 - 11/04/2015
Pediatric Education Conference, Ocho Rios, Jamaica, 07/18/2016 - 07/22/2016
Ipokrates Seminar, Porto Portugal, 04/01/2019 - 04/02/2019

COMMITTEE SERVICE:

Medical College of Wisconsin

2019 - Present Advisor Committees Liaison, Social Determinants of Health

Hospital

1995 - 2008 Resident Education Committee, University of Iowa
1998 - 2005 Resident Selection Committee, University of Iowa
2005 - 2017 Promotions Advisory Committee, University of Iowa
2005 - Present CMN Advisory Panel, University of Iowa Children’s Hospital
2013 - 2019 Education Committee, University of Iowa

PROGRAMMATIC DEVELOPMENTS:

Educational Programs

Student

1992 - Present Neonatal Resuscitation and Pediatric Life Support Instructor

NATIONAL COMMITTEES:

1996 Moderator, platform session: Roles of peptides in the regulation of vascular tone during development, annual meeting of the Society for Pediatric Research

- 2004 Moderator, poster symposium: Fetal Programming of Adult Diseases, annual meeting of the Pediatric Academic Societies
- 2005 - 2016 Pediatric Academic Societies Abstract Selection Committee
- 2005 Moderator, Satellite symposium. The Prenatal Environment, Programming and Postnatal Consequences. Sponsored by IUPS and the American Physiological Society. March 29-31, 2005. San Diego, CA
- 2006 - 2010 Council, Perinatal Research Society (President 2008-2009)
- 2006 Moderator, poster symposium: Fetal Programming of Adult Diseases, annual meeting of the Pediatric Academic Societies
- 2007 Moderator, poster symposium: Fetal Programming of Adult Diseases, annual meeting of the Pediatric Academic Societies
- 2008 Moderator, poster symposium: Fetal Programming of Adult Diseases, annual meeting of the Pediatric Academic Societies
- 2010 Moderator, topic symposium: Fetal Programming of Adult Diseases, annual meeting of the Pediatric Academic Societies
- 2011 Moderator, Plenary Session III: Programming in the Preterm Infant. 7th World Congress on Developmental Origins of Health and Disease. September 18-21, 2011.
- 2011 Moderator, topic symposium: Fetal Programming of Adult Diseases, annual meeting of the Pediatric Academic Societies
- 2014 Moderator, topic symposium: Neonatal Cardiology, annual meeting of the Pediatric Academic Societies

REVIEW PANELS:

- 1998 Ad Hoc member NIH Human Embryology and Development Study Section (HED-1)
- 2001 Member, National Institute of Child Health and Human Development Special Emphasis Panel (ZHD1 MCHG-B)
- 2003 Ad Hoc member NIH Pregnancy and Neonatology Study Section (PN1)
- 2004 Ad hoc member, American Heart Association Peer Review Committee, Cardiovascular Development
- 2004 Member, National Institute of Environmental Health Sciences Special Review Panel (ZRG1 EMNR-J50)
- 2005 - 2008 Ad Hoc reviewer, Canadian Institutes of Health Research
- 2006 - 2007 Ad Hoc reviewer, Australian National Health Medical Research Council
- 2008 - 2010 Member, Canadian Institutes of Health Research Clinical Investigation - Committee A
- 2009 Ad Hoc member NIH Pregnancy and Neonatology Study Section (PN1)
- 2013 Ad Hoc member NIH Pregnancy and Neonatology Study Section (PN1)
- 2015 Member, National Institutes of Health Special Emphasis Panel (ZRG1 EMNR –W55)
- 2016 Member, National Institutes of Health Special Emphasis Panel (ZRG1 EMNR –B(02)M)
- 2017 Member, National Institutes of Health Special Emphasis Panel (ZRG1 EMNR –S(02))
- 2018 Reviewer, Canadian Institutes of Health Research Clinical Investigation – Clinical Investigation A Committee
- 2019 Member, National Institutes of Health Special Emphasis Panel (ZRG1 EMNR –S(55))

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Smith FG, Smith BA, Segar JL, Robillard JE. Endocrine effects of ventilation, oxygenation and cord occlusion in near-term fetal sheep. *J Dev Physiol.* 1991;15:133-8.
2. Robillard JE, Smith FG, Segar JL, Guillery EN, Jose PA. Mechanisms regulating renal sodium excretion during development. *Pediatr Nephrol.* 1992;6:205-13.
3. Robillard JE, Segar JL, Smith FG, Jose PA. Regulation of sodium metabolism and extracellular fluid volume during development. *Clin Perinatol.* 1992;19:15-31.
4. Page WV, Perlman S, Smith FG, Segar JL, Robillard JE. Renal nerves modulate kidney renin gene expression during the transition from fetal to newborn life. *Am J Physiol.* 1992;262:R459-63
5. Segar JL, Robillard JE, Johnson KJ, Bell EF, Chemtob S. Addition of metolazone to overcome tolerance to furosemide in infants with bronchopulmonary dysplasia. *J Pediatr.* 1992;120:966-73.
6. Segar JL, Smith FG, Guillery EN, Jose PA, Robillard JE. Ontogeny of renal response to specific dopamine DA1-receptor stimulation in sheep. *Am J Physiol.* 1992;263:R868-73.
7. Segar JL, Hajduczuk G, Smith BA, Merrill DC, Robillard JE. Ontogeny of baroreflex control of renal sympathetic nerve activity and heart rate. *Am J Physiol.* 1992;263:H1819-26.

8. Malcolm DD, Segar JL, Robillard JE, Chemtob S. Indomethacin compromises hemodynamics during positive-pressure ventilation, independently of prostanooids. *J Appl Physiol.* 1993;74:1672-8.
9. Segar JL, Merrill DC, Chapleau MW, Robillard JE. Hemodynamic changes during endotracheal suctioning are mediated by increased autonomic activity. *Pediatr Res.* 1993;33:649-52.
10. Robillard JE, Guillery EN, Segar JL, Merrill DC, Jose PA. Influence of renal nerves on renal function during development. *Pediatr Nephrol.* 1993;7:667-71.
11. Segar JL, Merrill DC, Robillard JE. Role of endogenous ANG II on resetting arterial baroreflex during development. *Am J Physiol.* 1994;266:H52-9.
12. Segar JL, Merrill DC, Smith BA, Robillard JE. Role of sympathetic activity in the generation of heart rate and arterial pressure variability in fetal sheep. *Pediatr Res.* 1994;35:250-4.
13. Merrill DC, Segar JL, McWeeny OJ, Smith BA, Robillard JE. Cardiopulmonary and arterial baroreflex responses to acute volume expansion during fetal and postnatal development. *Am J Physiol.* 1994;267:H1467-75.
14. Guillery EN, Segar JL, Merrill DC, Nakamura KT, Jose PA, Robillard JE. Ontogenic changes in renal response to alpha 1-adrenoceptor stimulation in sheep. *Am J Physiol.* 1994;267:R990-8.
15. Segar JL, Mazursky JE, Robillard JE. Changes in ovine renal sympathetic nerve activity and baroreflex function at birth. *Am J Physiol.* 1994;267:H1824-32.
16. Robillard JE, Schutte BC, Page WV, Feddersen JA, Porter CC, Segar JL. Ontogenic changes and regulation of renal angiotensin II type 1 receptor gene expression during fetal and newborn life. *Pediatr Res.* 1994;36:755-62.
17. Merrill DC, McWeeny OJ, Segar JL, Robillard JE. Impairment of cardiopulmonary baroreflexes during the newborn period. *Am J Physiol.* 1995;268:H1343-51.
18. Segar JL, Bedell K, Page WV, Mazursky JE, Nuyt AM, Robillard JE. Effect of cortisol on gene expression of the renin-angiotensin system in fetal sheep. *Pediatr Res.* 1995;37:741-6.
19. Robillard JE, Page WV, Mathews MS, Schutte BC, Nuyt AM, Segar JL. Differential gene expression and regulation of renal angiotensin II receptor subtypes (AT1 and AT2) during fetal life in sheep. *Pediatr Res.* 1995;38:896-904.
20. Mazursky JE, Segar JL, Nuyt AM, Smith BA, Robillard JE. Regulation of renal sympathetic nerve activity at birth. *Am J Physiol.* 1996;270:R86-93.
21. Nuyt AM, Segar JL, Holley AT, O'Mara MS, Chapleau MW, Robillard JE. Arginine vasopressin modulation of arterial baroreflex responses in fetal and newborn sheep. *Am J Physiol.* 1996;271:R1643-53.
22. Segar JL, Chemtob S, Bell EF. Changes in body water compartments with diuretic therapy in infants with chronic lung disease. *Early Hum Dev.* 1997;25:48:99-107.
23. Segar JL, Minnick A, Nuyt AM, Robillard JE. Role of endogenous ANG II and AT1 receptors in regulating arterial baroreflex responses in newborn lambs. *Am J Physiol.* 1997;272:R1862-73.
24. Segar JL. Ontogeny of the arterial and cardiopulmonary baroreflex during fetal and postnatal life. *Am J Physiol.* 1997;273:R457-71.
25. Segar JL, Scholz TD, Bedell KA, Smith OM, Huss DJ, Guillery EN. Angiotensin AT1 receptor blockade fails to attenuate pressure-overload cardiac hypertrophy in fetal sheep. *Am J Physiol.* 1997;273:R1501-8.
26. Segar JL, Lumbers ER, Nuyt AM, Smith OJ, Robillard JE. Effect of antenatal glucocorticoids on sympathetic nerve activity at birth in preterm sheep. *Am J Physiol.* 1998;274:R160-7.
27. George TN, Johnson KJ, Bates JN, Segar JL. The effect of inhaled nitric oxide therapy on bleeding time and platelet aggregation in neonates. *J Pediatr.* 1998;132:731-4.
28. Samyn ME, Petershock JA, Bedell KA, Mathews MS, Segar JL. Ontogeny and regulation of cardiac angiotensin types 1 and 2 receptors during fetal life in sheep. *Pediatr Res.* 1998;44:323-9.
29. Mazursky JE, Birkett CL, Bedell KA, Ben-Haim SA, Segar JL. Development of baroreflex influences on heart rate variability in preterm infants. *Early Hum Dev.* 1998;53:37-52.
30. George TN, Segar JL. Reply. *J Pediatr.* 1999;134:383-4.
31. Segar JL, Smith OJ, Holley AT. Mechano- and chemoreceptor modulation of renal sympathetic nerve activity at birth in fetal sheep. *Am J Physiol.* 1999;276:R1295-301
32. Merrill DC, Segar JL, McWeeny OJ, Robillard JE. Sympathetic responses to cardiopulmonary vagal afferent stimulation during development. *Am J Physiol.* 1999;277:H1311-6.
33. Rupert BE, Segar JL, Schutte BC, Scholz TD. Metabolic adaptation of the hypertrophied heart: role of the malate/aspartate and alpha-glycerophosphate shuttles. *J Mol Cell Cardiol.* 2000;32:2287-97.
34. Nuyt AM, Segar JL, Holley AT, Robillard JE. Autonomic adjustments to severe hypotension in fetal and neonatal sheep. *Pediatr Res.* 2001;49:56-62.

35. Segar JL, Bedell KA, Smith OJ. Glucocorticoid modulation of cardiovascular and autonomic function in preterm lambs: role of ANG II. *Am J Physiol.* 2001;280:R646-54.
36. Segar JL, Barna TJ, Acarregui MJ, Lamb FS. Responses of fetal ovine systemic and umbilical arteries to angiotensin II. *Pediatr Res.* 2001;49:826-33.
37. Segar JL, Dalshaug GB, Bedell KA, Smith OM, Scholz TD. Angiotensin II in cardiac pressure-overload hypertrophy in fetal sheep. *Am J Physiol.* 2001;281:R2037-47.
38. Dalshaug GB, Scholz TD, Smith OM, Bedell KA, Caldarone CA, Segar JL. Effects of gestational age on myocardial blood flow and coronary flow reserve in pressure-loaded ovine fetal hearts. *Am J Physiol.* 2002;282:H1359-69.
39. Ellsbury DL, Klein JM, Segar JL. Optimization of high-frequency oscillatory ventilation for the treatment of experimental pneumothorax. *Crit Care Med.* 2002;30:1131-5.
40. Nau PN, Van Natta T, Ralphe JC, Teneyck CJ, Bedell KA, Caldarone CA, Segar JL, Scholz TD. Metabolic adaptation of the fetal and postnatal ovine heart: regulatory role of hypoxia-inducible factors and nuclear respiratory factor-1. *Pediatr Res.* 2002;52:269-78.
41. Segar JL, Van Natta T, Smith OJ. Effects of fetal ovine adrenalectomy on sympathetic and baroreflex responses at birth. *Am J Physiol.* 2002;283:R460-7.
42. Segar JL, Ellsbury DL, Smith OM. Inhibition of sympathetic responses at birth in sheep by lesion of the paraventricular nucleus. *Am J Physiol.* 2002;283:R1395-403.
43. Hammel JM, Caldarone CA, Van Natta TL, Wang LX, Welke KF, Li W, Niles S, Barner E, Scholz TD, Behrendt DM, Segar JL. Myocardial apoptosis after cardioplegic arrest in the neonatal lamb. *J Thorac Cardiovasc Surg.* 2003;125:1268-75.
44. Roghair RD, Lamb FS, Bedell KA, Smith OM, Scholz TD, Segar JL. Late-gestation betamethasone enhances coronary artery responsiveness to angiotensin II in fetal sheep. *Am J Physiol.* 2004;286:R80-8.
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