



## Fetal Sheep Publication References

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### THEORY OF OPERATION

- 1T Drost, C.J., "Volume Flow Measurement System," U.S. Patent # 4,227,407, Cornell Research Foundation, Inc., Ithaca NY, October 14, 1980.
- 2T Drost, C.J., "Homogeneous Full Flow Illumination to Ultrasonic Systems," Proceedings of the 31st Annual Conference of Engineering in Medicine and Biology, Bethesda MD: Alliance for Engineering in Medicine and Biology, Vol. 20, p. 183, 1978.
- 3T Drost, C.J., "Vessel Diameter-Independent Volume Flow Measurements Using Ultrasound," Proceedings of San Diego Biomed. Symposium, San Diego CA: San Diego Biomed. Society, Vol. 17, pp. 299-302, 1978.
- 4T Hemisch, W., "Blood Flow during Cardiovascular Surgery: Methodological, Technical and Practical Considerations," Gefäßchirurgie, Springer-Verlag, 1996.

### VALIDATION STUDIES

- 8V Wilkening, R.B., Boyle, D.W., Meschia, G., "Measurement of Oxygen Consumption of the Pelvic Limb in Fetal Sheep," Accepted by the American Pediatric Society for presentation at the annual meeting. Dept. of Pediatrics, Univ. of Colorado HSC, Denver CO, 1987. (*fetal sheep, pelvic limb, against microspheres*)
- 11V Wilkening, R.B., Boyle, D.W., and Meschia, G., "Measurement of Blood Flow and Oxygen Consumption in the Pelvic Limb of the Fetal Sheep," Proceed. Soc. Exper. Biol. Med., Vol. 187, pp. 498-505, 1988. (*fetal sheep, pelvic limb, against microspheres*)
- 15V Spencer, J., Moore, P., Hanson, M., "Studies of Reflex Control of Fetal Carotid and Femoral Blood Flow in Hypoxia," Proceedings of the Society for the Study of Fetal Physiology, Vol. 16, C6, 1989. (*fetal sheep, femoral, carotid, beaker stopwatch*)
- 24V Shiraishi, H., Silverman, N.H., Rudolph, A.M., "Accuracy of Right Ventricular Output Estimated by Doppler Echocardiography in the Sheep Fetus," American Journal of Obstetrics & Gynecology, Vol. 168, p. 947-953, 1993. (*fetal sheep, pulmonary artery*)
- 32V Sokol, G.M., Liechty, E.A., Boyle, D.W., "Comparision of Steady-State Diffusion and Transit Time Ultrasonic Measurements of Unbilical Blood Flow in the Chronic Fetal Sheep Preparation," American Journal of Obstetrics and Gynolcology, Vol. 174, No. 5, p. 1446-1450, 1996. (*fetal sheep, umbilical a., chronic*)

### Applications

#### Aorta, Abdominal

- 722A Parkinson, S., Belleau, C., Homan, J., Richardson, B., "Flow and Velocity Waveform Indices in the Ovine Fetal Abdominal Aorta with Changes in Behavioral State," Reproduction, Fertility, Development, Vol. 7, No. 5, p. 1299-304, 1995. (*fetal sheep, abdominal aorta, chronic*)

#### Aorta / Brachiocephalic trunk

- 2332A Wothe, D., Hohimer, A., Morton, M., Thornburg, K., Giraud, G., Davis, L., "Increased coronary blood flow signals growth of coronary resistance vessels in near-term ovine fetuses," AJP, Vol. 282, No. 1, p. R295-302, 2002. (*fetal sheep, asc. aorta, chronic*)

#### Aorta, Descending

- 2723A Acharya G, Erkinaro T, Makikallio K, Lappalainen T, Rasanen J., "Relationships between Doppler-derived umbilical artery absolute velocities, cardiac function, and placental volume blood flow and resistance in fetal sheep," Am J Physiol Heart Circ Physiol. 2003 Nov 20. (*fetal sheep, desc. aorta, chronic*)
- 2409A Vedrinne, C, Tronc, F., Martinot, S., Robin, J., Allevard, A.M., Vincent, M., Lehot, J.J., Franck, M., Champsaur, G., "Better preservation of endothelial function and decreased activation of the fetal renin-angiotensin pathway with the use of pulsatile flow during experimental fetal bypass," J Thorac Cardiovasc Surg, Vol. 120, No. 4, p. 770-7, 2000. (*fetal sheep, desc. aorta, umbilical a., acute*)
- 1056A Champsaur, G., Vedrinne, C., Martinot, S., Tronc, F., Robin, J., Ninet, J., Franck, M., "Flow-Induced Release of Endothelium-Derived Relaxing Factor during Pulsatile Bypass: Experimental Study in the Fetal Lamb," Journal of



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E-4 Rev 9-05 page 1



## Fetal Sheep Publication References

Thoracic and Cardiovascular Surgery, Vol. 114, No. 5, p. 738-745, 1997. (*fetal sheep, desc. aorta, umbilical artery, acute*)

- 740A Maulik, D., Kadado, T., Downing, G., Phillips, C., "In Vitro and In Vivo Validation of Time Domain Velocity and Flow Measurement Technique," Journal of Ultrasound in Medicine, Vol. 14, p. 939-947, 1995. (*fetal sheep, desc. aorta, chronic*)

### CAROTID A.

- 15V Spencer, J., Moore, P., Hanson, M., "Studies of Reflex Control of Fetal Carotid and Femoral Blood Flow in Hypoxia," Proceedings of the Society for the Study of Fetal Physiology, Vol. 16, C6, 1989. (*fetal sheep, femoral, carotid, beaker stopwatch*)
- 7003A Hernandez-Andrade E., Hellstrom-Westas L., Thorngren-Jerneck K., Jansson T., Liuba K., Lingman G., Marsal K., Oskarsson G., Werner O., Ley D., "Perinatal adaptive response of the adrenal and carotid blood flow in sheep fetuses subjected to total cord occlusion," J Matern Fetal Neonatal Med. - 2005 Feb;17(2):101-9 (*fetal sheep, carotid, chronic*)
- 2425A Newman, J.P., Peebles, D.M., Hanson, M.A., "Adenosine produces changes in cerebral hemodynamics and metabolism as assessed by near-infrared spectroscopy in late-gestation fetal sheep in utero," Pediatr Res, Vol. 50, No. 2, p. 217-21, 2001. (*fetal sheep, carotid a., chronic*)
- 2353A Bennet, L., Rossenrode, S., Gunning, M.I., Gluckman, P.D., Gunn, A.J., "The cardiovascular and cerebrovascular responses of the immature fetal sheep to acute umbilical cord occlusion," J Physiol, Vol. 517., No. 1, p. 247-57, 1999. (*fetal sheep, carotid a., femoral a., chronic*)
- 2209A van Cappelen van Walsum, A-M., Jongasma, H.W., Wevers, R.A., Nijhuis, J.G., Crevels, J., Engelke, U.F.H., Moolenaar, S.H., Oeseburg, B., Nijland, R., "Hypoxia in fetal lambs: a study with N-NMR spectroscopy of cerebrospinal fluid," Pediatric Research, Vol. 49, No. 5, p. 698-704, 2001. (*fetal sheep, carotid a., chronic*)
- 2171A Braaksma, M.A., Douma, B.R., Nyakas, C., Luiten, P.G., Aarnoudse, J.G., "Delayed neuronal migration of protein kinase Cgamma immunoreactive cells in hippocampal CA1 area after 48 h of moderate hypoxemia in the near term ovine fetus," Brain Res Dev Brain Res, Vol. 114, No. 2, p. 253-60, 1999. (*fetal sheep, carotid a., chronic*)
- 1877A Skarsgard, E.D., VanderWall, K.J., Morris, J.A., Roman, C., Heymann, M.A., Harrison, M.R., "Effects of nitroglycerin and indomethacin on fetal-maternal circulation and on fetal cerebral blood flow and metabolism in sheep," American Journal of Obstetrics and Gynecology, Vol. 181, No. 2, p. 440-445, 2000. (*fetal sheep, carotid a., chronic*)
- 1851A Lumbers, E.R., Gunn, A.J., Zhang, D.Y., Wu, J.J., Maxwell, L., Bennet, L., "Nonimmune hydrops fetalis and activation of the renin-angiotensin system after asphyxia in preterm fetal sheep," AJP, vol. 280, No. 4, p. R1045-51, 2001. (*fetal sheep, carotid a., femoral a., chronic*)
- 1615A Stein, P., White, S.E., Homan, J., Hanson, M.A., Bocking, A.D., "Altered Fetal Cardiovascular Responses to Prolonged Hypoxia after Sinoaortic Denervation," American Journal of Physiology, Vol. 276, No. 2, p. R340-R346, 1999. (*carotid artery*)
- 1487A Gunn, A.J., Gunn, T.R., de Haan, H.H., Williams, C.E., Gluckman, P.D., "Dramatic Neuronal Rescue with Prolonged Selective Head Cooling after Ischemia in Fetal Lambs," Journal of Clinical Investigation, Vol. 99, NO. 2. p. 248-256, 1997. (*fetal sheep, carotid artery, chronic*)
- 1377A Gagnon, R., Lamb, T., Richardson, B., "Cerebral Circulatory Responses of Near-Term Ovine Fetuses during Sustained Fetal Placental Embolization," American Journal of Physiology, Vol. 273, pp. H2001-2008, 1997. (*fetal sheep, pulmonary a., carotid a., chronic*)
- 721A Gratton, R., Carmichael, L., Homan, J., Richardson, B., "Carotid Arterial Blood Flow in the Ovine Fetus As a Continuous Measure of Cerebral Blood Flow," Journal of the Society of Gynecological Investigation, Vol. 3, No. 2, p. 60-65 1996. (*fetal sheep, carotid a., chronic*)
- 686A Van Bel, F., Bartelds, B., Teitel, D.F., Rudolph, A.M., "Effect of Indomethacin on Cerebral Blood Flow and Oxygenation in the Normal and Ventilated Fetal Lamb," Pediatric Research, Vol 38 p.243-250, 1995. (*fetal sheep, carotid, chronic*)
- 661A Bennet, L., Giussani, D.A., Hanson, M.A., "Fetal Cardiovascular Function," Scientific Essentials of Reproductive Medicine, Editor, S.G. Hillier et al, W.B. Saunders Co. Ltd, London. (*fetal sheep, chronic, femoral a., carotid a.*)
- 659A Giussani, D.A., Spencer, J.A.D., Hanson, M.A., "Fetal Cardiovascular Reflect Responses to Hypoxaemia," Fetal and Maternal Medicine Review, Vol. 6, p. 17-37, 1994. (*fetal sheep, chronic, femoral, carotid*)





## Fetal Sheep Publication References

- 438A Giussani, D.A., McGarrigle, H.H.G., Spencer, J.A.D., Moore, P.J., Bennet, L., Hanson, M.A., "Effect of Carotid Denervation on Plasma Vasopressin Levels During Acute Hypoxia in the Late Gestation Sheep Fetus", *Journal of Physiology*, Vol. 477, No. 1, p. 81-87, 1994. (*fetal sheep, carotid a., femoral a., chronic*)
- 382A van Bel, F., Roman, C., Klautz, R.J., Teitel, D.F., Rudolph, A.M., "Relationship between Brain Blood Flow and Carotid Arterial Flow in the Sheep Fetus," *Pediatric Research*, Vol. 35, No. 3, p. 329-33, 1994. (*fetal sheep, carotid a.*)
- 356A Giussani, D.A., Spencer, J.A.D., Moore, P.J., Bennet, L., Hanson, M.A., "Afferent and Efferent Components of the Cardiovascular Reflex Responses to Acute Hypoxia in Term Fetal Sheep" *Journal of Physiology*, Vol. 461, p. 431-449, 1993. (*fetal sheep, chronic, carotid a., femoral a.*)
- 255A Dassel, A.C.M., de Vries, A.A., de Wolf, B.T.H.M., Peters, J.M.F., Elstrodt, J.M., Woudstra, B.R., Aaroudse, J.G., "Carotid Artery Blood Flow during Myometrial Contraction in Fetal Sheep," Dept. Obstet. & Gyn., University of Groningen, The Netherlands. (*fetal sheep, carotid a., chronic*)

### **Ductus Arteriosus**

- 2697A Clyman, R.I., Chen, Y.Q., Chemtob, S., Mauray, F., Kohl, T., Varma, D.R., Roman, C., "In utero remodeling of the fetal lamb ductus arteriosus," *Circulation*, Vol. 103, No. 13, p. 1806-12, 2001. (*fetal sheep, ductus arteriosus, chronic*)
- 2637A Goldbarg, S.H., Takahashi, Y., Cruz, C., Kajino, H., Roman, C., Liu, B.M., Chen, Y.Q., Mauray, F., Clyman, R.I., "In utero indomethacin alters O(2) delivery to the fetal ductus arteriosus: implications for postnatal patency," *AJP*, Vol. 282, No. 1, p. R184-90, 2002. (*fetal sheep, ductus arteriosus, chronic*)
- 2385A Jaillard, S., Houfflin-Debarge, V., Riou, Y., Storme, L., Puech, F., Wurtz, A., "Experimental model of perinatal pulmonary circulation in lambs," *Ann Chir*, Vol. 126, No. 7, p. 659-65, 2001. (*fetal sheep, ductus arteriosus, pulmonary a., chronic*)
- 1626A Takahashi, Y., Roman, C., Chemtob, S., Tse, M.M., Lin, E., Heymann, M.A., Clyman, R.I., "Cyclooxygenase-2 Inhibitors Constrict the Fetal Lamb Ductus Arteriosus Both In Vitro and In Vivo," *American Journal of Physiology*, Vol. 278, No. 5, p. R1496-R1505, 2000. (*fetal sheep, ductus arteriosus, chronic*)

### **ESOPHAGUS (AMNIOTIC FLUID)**

- 2718A Thurlow RW, Brace RA., "Swallowing, urine flow, and amniotic fluid volume responses to prolonged hypoxia in the ovine fetus," *Am J Obstet Gynecol.*" 2003 Aug;189(2):601-8. (*fetal sheep, acute*)
- 1303A Ross, M.G., Nijland, M.J., "Fetal Swallowing: Relation to Amniotic Fluid Regulation," *Clinical Obstetrics Gynecology*, Vol. 40, No. 2, p. 352-365, 1997. (*sheep, esophageal flow, )*
- 921A Ross, M.G., Nijland, M.J., Kullama, L.K., "1-Deamino-[8-d-arginine] vasopressin-induced maternal plasma hypoosmolality increases ovine amniotic fluid volume." *American Journal of Obstetrics & Gynecology*. April 1996; 174(4): 1118-25; discussion 1125-7. (*fetal sheep, chronic*)
- 920A Kullama, L.K., Nijland, M.J., Ross, M.G., "Development of Concentration Thresholds for Fetal Swallowing and Arginine Vasopressin Stimulation in the Preterm Ovine Fetus," *Journal of Maternal & Fetal Medicine*, Vol. 5, No. 2, p.51-7, 1996. (*fetal sheep, chronic*)
- 783A Ross, M.G., Dodd, A., Agnew, C., Fujino, Y., Ervin, M.G., "Ovine Fetal Swallowing and Behavioral State Responses to Sublingual Water," *Biological Neocate*, Vol. 64, p. 127-133, 1993. (*fetal sheep, chronic*)
- 765A Schreyer, P., Sherman, D.J., Ervin, M.G., Day, L., Ross, M.G., "Ovine Fetal Breathing and Swallowing Activity in Response to Plasma Glucose Changes," *Gynecology, Obstetrics, Investigation*, Vol. 32, No. 1, p. 15-19, 1991. (*fetal sheep, chronic*)
- 764A Ross, M.G., Agnew, C., Fujino, Y., Ervin, M.G., Day, L., "Concentration Thresholds for Fetal Swallowing and Vasopressin Secretion," *American Journal of Physiology*, Vol. 262, p. R1057-R1063, 1992. (*fetal sheep, chronic*)
- 763A Fujino, Y., Agnew, C.L., Schreyer, P., Ervin, M.G., Sherman, D.J., Ross, M.G. "Amniotic Fluid Volume Response to Esophageal Occlusion in Fetal Sheep," *American Journal of Obstetrics and Gynecology*, Vol. 165, p. R1620-1626, 1991. (*fetal sheep, chronic*)
- 762A Ross, M.G., Sherman, D.J., Ervin, M.G., Day, L., Humme, J., "Fetal Swallowing: Response to Systemic Hypotension," *American Journal of Physiology*, Vol. 258, p. R130-134, 1990. (*fetal sheep, chronic*)
- 736A Ross, M.G., Nijland, M.J.M., Kullama, L.K., Chan, "Cocaine Stimulation of Ovine Fetal Swallowing," *Developmental Brain Research*, Vol. 87, p. 120-124, 1995. (*fetal sheep, chronic*)





## Fetal Sheep Publication References

- 696A Kullama, L.K., Nijland, M.J., Ervin, M.G., Ross, M.G., "Intraamniotic Deamino (D-Arg8) - Vasopressin: Prolonged Effects on Ovine Fetal Urine Flow and Swallowing," American Journal of Obstetrics and Gynecology, Vol 174, No. 1, p.78-84, 1996. (*fetal sheep, chronic*)
- 647A Ross, M.G., Kullama, L.K., Ogundipe, A., Chan, K., Ervin, M.G., "Ovine Fetal Swallowing Response to Intracerebroventricular Hypertonic Saline," Journal of Applied Physiology, Vol. 78, No. 6, p. 2267-2271, 1995. (*fetal sheep, chronic*)
- 646A Ross, M.G., Kullama, L.K., Ogundipe, A., Chan, K., Ervin, M.G., "Central Angiotensin II Stimulation of Ovine Fetal Swallowing," Journal of Applied Physiology, Vol. 76, No. 3, p. 1340-1345, 1994. (*fetal sheep, chronic*)
- 645A Kullama, L.K., Agnew, C.L., Day, L., Ervin, M.G., Ross, M.G., "Ovine Fetal Swallowing and Renal Responses to Oligohydramnios," Am. Journal of Physiology, Vol. 266, p. R972-R978, 1994. (*fetal sheep, chronic*)
- 644A Sherman, D.J., Ross, M.G., Day, L., Ervin, M.G., "Fetal Swallowing: Correlation of Electromyographys and Esophageal Fluid Flow," American Journal of Physiology, Vol. 258, p. R1386-R1394, 1990. (*fetal sheep, chronic*)

### EXTERNAL ILLIAC

- 8V Wilkening, R.B., Boyle, D.W., Meschia, G., "Measurement of Oxygen Consumption of the Pelvic Limb in Fetal Sheep," Accepted by the American Pediatric Society for presentation at the annual meeting. Dept. of Pediatrics, Univ. of Colorado HSC, Denver CO, 1987. (*fetal sheep, pelvic limb, against microspheres*)
- 11V Wilkening, R.B., Boyle, D.W., and Meschia, G., "Measurement of Blood Flow and Oxygen Consumption in the Pelvic Limb of the Fetal Sheep," Proceed. Soc. Exper. Biol. Med., Vol. 187, pp. 498-505, 1988. (*fetal sheep, pelvic limb, against microspheres*)
- 1912A Knight, K., Hall, C., Rurak, D., "Tissue blood flow distribution and the effect of chronic vascular catheterization in the hind limb of the fetal lamb," Can J Physiol Pharmacol, Vol. 74, No. 11, p. 1270-6, 1996. (*fetal sheep, iliac a., chronic*)
- 144A Boyle, D.W., Giacomo, M., Wilkening, R.B., "Effect of Prolonged Hypoxia on Oxygen Consumption and Lactate Release by the Fetal Hindlimb," Aspen Conference on Perinatal Research, 1988. (*fetal sheep, iliac a., chronic*)
- 65A Boyle, D.W., Meschia, G., Wilkening, R.B., "Effect of Hypoxia on Oxygen Consumption and Lactate Release by the Fetal Hindlimb," Pediatric Research, Vol. 23, p. 239A, 1988. (*fetal sheep, iliac a., acute*)
- 64A Boyle, D.W., Meschia, G., Wilkening, R.B., "Effect of Prolonged Hypoxia on Fetal Hindlimb Metabolism In Utero," Clinical Research, Vol. 37, p. 176A, 1989. (*fetal sheep, iliac a., acute*)
- 20A Boyle, D.W., Wilkening, R.B., and Meschia, G., "Effect of Hypoxia on Oxygen Consumption of and Blood Flow to the Pelvic Limb of Fetal Sheep," Pediatric Research, Vol. 21, p. 210A, 1987. (*fetal sheep, iliac a., chronic*)

### EXTRACORPOREAL/IN-LINE

- 1237A Reddy, V.M., McElhinney, D.B., Rasasinghe, H.A., Lifficoart, J.R., Hendricks-Munoz, K., Fineman, J.R., Hanley, F.L., "Role of the Endothelium in Placental Dysfunction after Fetal Cardiac Bypass," Journal of Thoracic and Cardiovascular Surgery, Vol. 117, p. 343-351, 1999. (*fetal sheep, umbilical a, pulmonary a, inline(pump flow), acute*)
- 675A Reddy, V.M., Liddicoat, J.R., Fineman, J.R., McElhinney, D.B., Klein, J.R., Hanley, F.L., "Fetal Model of Single Ventricle Physiology: Hemodynamic Effects of Oxygen, Nitric Oxide, Carbon Dioxide, & Hypoxia in the Early Postnatal Period," Journal of Thoracic and Cardiovascular Surgery, Vol. 112, p. 437-449, 1996. (*fetal sheep, in-line*)
- 668A Reddy, V.M., Liddicoat, J.R., Klein, J.R., McElhinney, D.B., Wampler, R.K., Hanley, F.L., "Fetal Cardiac Bypass Using an In-line Axial Flow Pump to Minimize Extracorporeal Surface and Avoid Priming Volume," Annals of Thoracic Surgery, Vol. 62, p.393-400, 1996. (*fetal sheep, in-line, tubing, acute*)
- 632A Reddy, V.M. et al. "Long-Term Fetal Outcome after Fetal Cardiac Bypass: Fetal Survival to Full Term and Organ Abnormalities:," Journal of Thoracic and Cardiovascular Surgery, Vol. 11, p.5536-44. (*fetal sheep, in-line, tubing, acute*)

### FEMORAL A.

- 15V Spencer, J., Moore, P., Hanson, M., "Studies of Reflex Control of Fetal Carotid and Femoral Blood Flow in Hypoxia," Proceedings of the Society for the Study of Fetal Physiology, Vol. 16, C6, 1989. (*fetal sheep, femoral, carotid, beaker stopwatch*)
- 2813A Sanhueza EM, Johansen-Bibby AA, Fletcher AJ, Riquelme RA, Daniels AJ, Seron-Ferre M, Gaete CR, Carrasco JE, Llanos AJ, Giussani DA, "The role of neuropeptide Y in the ovine fetal cardiovascular response to reduced oxygenation," J Physiol, Vol. 546(Pt 3), p. 891-901, 2003. (*fetal sheep, femoral a., chronic*)





## Fetal Sheep Publication References

- 2692A Fletcher, A.J., Gardner, D.S., Edwards, C.M., Fowden, A.L., Giussani, D.A., "Cardiovascular and endocrine responses to acute hypoxaemia during and following dexamethasone infusion in the ovine fetus," J Physiol, Vol. 549, Pt. 1, p. 271-87, 2003. (*fetal sheep, femoral a., chronic*)
- 2576A Morrison, S., Gardner, D.S., Fletcher, A.J., Bloomfields, M.R., Guissani, D.A., "Enhanced Nitric Oxide Activity Offsets Peripheral Vasoconstriction during Acute Hypoxaemia via Chemoreflex and Adrenomedullary Actions in the Sheep Fetus." Journal of Physiology, Vol 547, Part 1, p. 283-91, Feb 15 2003. (*fetal sheep, femoral a., chronic*)
- 2575A Sanhueza, E.M., Johansen-Bibby, A.A., Fletcher, A.J., Riquelme, R.A., Daniels, A.J., Seron-Ferre, M., Gaete, C.R., Carrasco, J.E., Llanos, A.J., Giussani, D.A., "The Role of Neuropeptide Y in the Ovine Fetal Cardiovascular Response to Reduced Oxygenation." Journal of Physiology, Vol. 546 (Pt 3), p. 891-901, Feb. 1, 2003. (*fetal sheep, femoral a., chronic*)
- 2487A Fletcher, A.J., McGarrigle, H.H., Edwards, C.M., Fowden, A.L., Giussani, D.A., "Effects of low dose dexamethasone treatment on basal cardiovascular and endocrine function in fetal sheep during late gestation," J Physiol, Vol. 545, Pt. 2, p. 649-60, 2002. (*fetal sheep, femoral a., chronic*)
- 2392A Gardner, D.S., Fletcher, A.J., Fowden, A.L., Giussani, D.A., "A novel method for controlled and reversible long term compression of the umbilical cord in fetal sheep," J Physiol, Vol. 535, Pt. 1, p. 217-29, 2001. (*fetal sheep, femoral a., chronic*)
- 2391A Fletcher, A.J.W., Edwards, C.M.B., Gardner, D.S., Fowden, A.L., Giussani, D.A., "Neuropeptide Y in the sheep fetus: effects of acute hypoxemia and dexamethasone during late gestation," Endocrinology, Vol. 141, No. 11, p. 2976-82, 2000. (*fetal sheep, femoral a., chronic*)
- 2377A Gardner, D.S., Fletcher, A.J., Bloomfield, M.F., Fowden, A.L., Giussani, D.A., "Effects of prevailing hypoxaemia, acidaemia or hypoglycaemia upon the cardiovascular, endocrine and metabolic responses to acute hypoxaemia in the ovine fetus," J Physiol, Vol. 540, Pt 1, p. 351-66, 2002. (*fetal sheep, femoral a., chronic*)
- 2353A Bennet, L., Rossenrode, S., Gunning, M.I., Gluckman, P.D., Gunn, A.J., "The cardiovascular and cerebrovascular responses of the immature fetal sheep to acute umbilical cord occlusion," J Physiol, Vol. 517., No. 1, p. 247-57, 1999. (*fetal sheep, femoral a., carotid a., chronic*)
- 1851A Lumbers, E.R., Gunn, A.J., Zhang, D.Y., Wu, J.J., Maxwell, L., Bennet, L., "Nonimmune hydrops fetalis and activation of the renin-angiotensin system after asphyxia in preterm fetal sheep," AJP, vol. 280, No. 4, p. R1045-51, 2001. (*fetal sheep, carotid a., femoral a., chronic*)
- 1822A Giussani, D.A., Gardner, D.S., Cox, D.T., Fletcher, A.J.W., "Purinerbic contribution to circulatory, metabolic, and adrenergic responses to acute hypoxemia in fetal sheep," AJP, Vol 280, No. 3, p. R678-685, 2001. (*fetal sheep, femoral a., chronic*)
- 1147A Derks, J.B., Giussani, D.A., Jenkins, S.L., Wentworth, R.A., Visser, G.H., Padbury, J.F., Nathanielsz, P.W., "A Comparative Study of Cardiovascular, Endocrine and Behavioural Effects of Betamethasone and Dexamethasone Administration in Fetal Sheep," Journal of Physiology, Vol. 499, Pt. 1, p. 217-226, 1997. (*fetal sheep, femoral a., chronic*)
- 661A Bennet, L., Giussani, D.A., Hanson, M.A., "Fetal Cardiovascular Function", Scientific Essentials of Reproductive Medicine, Editor S.G. Hillier, et al, WB Saunders Co. Ltd, London p. 342-352. (*fetal sheep, femoral a., carotid a., chronic*)
- 659A Giussani, D.A., Spencer, J.A.D., Hanson, M.A., "Fetal Cardiovascular Reflect Responses to Hypoxaemia," Fetal and Maternal Medicine Review, Vol. 6, p. 17-37, 1994. (*fetal sheep, chronic, femoral, carotid*)
- 438A Giussani, D.A., McGarrigle, H.G., Spencer, J.A.D., Moore, P.J., Bennet, L., Hanson, M.A., "Effect of Carotid Denervation on Plasma Vasopressin Levels during Acute Hypoxia in the Late Gestation-Sheep Fetus," Journal of Physiology, Vol. 477, No. 1, p. 81-87, 1994. (*fetal sheep, carotid a. femoral a., chronic*)
- 356A Giussani, D.A., Spencer, J.A.D., Moore, P.J., Bennet, L., Hanson, M.A., "Afferent and Efferent Components of the Cardiovascular Reflex Responses to Acute Hypoxia in Term Fetal Sheep" Journal of Physiology, Vol. 461, p. 431-449, 1993. (*fetal sheep, femoral a., carotid a., chronic*)





## Fetal Sheep Publication References

### **PULMONARY A.**

- 2622A Cornfield, D.N., Resnik, E.R., Herron, J.M., Reinhartz, O., Fineman, J.R., "Pulmonary vascular K<sup>+</sup> channel expression and vasoreactivity in a model of congenital heart disease," *AJP*, Vol. 283, No. 6, p. L1210-9, 2002. (*fetal sheep, pulmonary a., chronic*)
- 2621A Konduri, G.G., Mattei, J., "Role of oxidative phosphorylation and ATP release in mediating birth-related pulmonary vasodilation in fetal lambs," *AJP*, Vol. 283, No. 4, p.H1600-8, 2002. (*fetal sheep, pulmonary a., chronic*)
- 2388A Porter, V.A., Rhodes, M.T., Reeve, H.L., Cornfield, D.N., "Oxygen-induced fetal pulmonary vasodilation is mediated by intracellular calcium activation of K(Ca) channels," *AJP*, Vol. 281, No. 6, p. L1379-85, 2001. (*fetal sheep, pulmonary a., chronic*)
- 2385A Jaillard, S., Houfflin-Debarge, V., Riou, Y., Storme, L., Puech, F., Wurtz, A., "Experimental model of perinatal pulmonary circulation in lambs," *Ann Chir*, Vol. 126, No. 7, p. 659-65, 2001. (*fetal sheep, pulmonary a., chronic*)
- 2375A Zenge, J.P., Rairigh, R.L., Grover, T.R., Storme, L., Parker, T.A., Kinsella, J.P., Abman, S.H., "NO and prostaglandin interactions during hemodynamic stress in the fetal ovine pulmonary circulation," *AJP*, Vol. 281, No. 5, p. L1157-63, 2001. (*fetal sheep, pulmonary a., chronic*)
- 2291A Storme, L., Parker, T.A., Kinsella, J.P., Rairigh, R.L., Abman, S.H., "Chronic hypertension impairs flow-induced vasodilation and augments the myogenic response in fetal lung," *AJP*, Vol. 282, No. 1, p. L56-66, 2002. (*fetal sheep, pulmonary a., chronic*)
- 2287A Ovadia, B., Bekker, J.M., Fitzgerald, R.K., Kon, A., Thelitz, S., Johengen, M.J., Hendricks-Munoz, K., Gerrets, R., Black, S.M., Fineman, J.R., "Nitric oxide-endothelin-1 interactions after acute ductal constriction in fetal lambs," *AJP*, Vol. 282, No. 3, p. H862-71, 2002. (*fetal sheep, pulmonary a., chronic*)
- 2226A O'Toole, S.J., Karamanoukian, H.L., Morin, F.C. 3rd, Holm, B.A., Egan, E.A., Azizhan, R.G., Glick, P.L., "Surfactant decreases pulmonary vascular resistance and increases pulmonary blood flow in the fetal lamb model of congenital diaphragmatic hernia," *J Pediatr Surg*, Vol. 31, No. 4, p. 507-11, 1996. (*fetal sheep, pulmonary a., chronic*)
- 2212A Samson, F., Bonnet, N., Heimburger, M., Rucker-Martin, C., Levitsky, D.O., Mazmanian, G.M., Mercadier, J-J, Serraf, A., "Left ventricular alterations in a model of fetal left ventricular overload," *Pediatric Research*, Vol. 48, No. 1, p. 43-49, 2000. (*fetal sheep, pulmonary a., acute*)
- 2139A Morin, F.C., Egan, E.A., Lundgren, C.E., Swartz, D.D., "Prostacyclin does not change during an oxygen induced increase in pulmonary blood flow in the fetal lamb," *Prostaglandins Leukot Essent Fatty Acids*, Vol. 32, No. 3, p. 139-44, 1988. (*fetal sheep, pulmonary a., chronic*)
- 2138A Morin, F.C., Egan, E.A., Norfleet, W.T., "Indomethacin does not diminish the pulmonary vascular response of the fetus to increased oxygen tension," *Pediatr Res*, Vol. 24, No. 6, p. 696-700, 1988. (*pulmonary a., chronic*)
- 2137A Morin, F.C., Egan, E.A., "Pulmonary hemodynamics in fetal lambs during development at normal and increased oxygen tension," *JAP*, Vol. 73, No. 1, p. 231-8, 1992. (*fetal sheep, pulmonary a., chronic*)
- 2136A Morin, F.C., Egan, E.A., Ferguson, W., Lundgren, C.E., "Development of pulmonary vascular response to oxygen," *AJP*, Vol. 254, No. 3 Pt 2, p. H542-6, 1998. (*fetal sheep, pulmonary a, chronic*)
- 2109A Dukarm, R.C., Russell, J.A., Morin, F.C., Perry, B.J., Steinhorn, R.H., "The cGMP-specific phosphodiesterase inhibitor E4021 dilates the pulmonary circulation," *Am J RESpir Crit Care Med*, Vol. 160, No. 3, p. 858-865, 1999. (*fetal sheep, pulmonary a., chronic*)
- 2058A Jaillard, S., Houfflin-Debarge, V., Riou, Y., Rakza, T., Klosowski, S., Lequien, P., Storme, L., "Effects of catecholamines on the pulmonary circulation in the ovine fetus," *AJP*, Vol. 281, No. 2, p. R607-614, 2001. (*fetal sheep, pulmonary a., chronic*)
- 1974A Takahashi, Y., De Broomen, M., Roman, C., Heymann, M.A., "Mechanisms of calcitonin gene-related peptide-induced increases of pulmonary blood flow in fetal sheep," *AJP*, Vol. 279, No. 4, p. H1654-1660, 2000. (*fetal sheep, pulmonary a., chronic*)
- 1888A Cornfield, D.N., Martin, E.B., Hampl, V., Archer, S.L., "Aerosol delivery of distylenetriamine/nitric oxide, a nitric oxide adduct, causes selective pulmonary vasodilation in perinatal lambs," *Journal of Laboratory and Clinical Medicine*, Vol. 134, No. 4, p. 419-24, 1999. (*fetal sheep, pulmonary a., acute*)





## Fetal Sheep Publication References

- 1855A Konduri, G.G., Mital, S., "Adenosine and ATP cause nitric oxide-dependent pulmonary vasodilation in fetal lambs," *Biology of the Neonate*, Vol. 78, No. 3, p. 220-229, 2000. (*fetal sheep, pulmonary a., chronic*)
- 1798A Parker, T.A., Dunbar Ivy, D., Galan, H.L., Grover, T.R., Kinsella, J.P., Abman, S.H., "Estradiol improves pulmonary hemodynamics and vascular modeling in perinatal pulmonary hypertension," *AJP*, Vol. 278, p. L374-381, 2000. (*fetal sheep, pulmonary a., chronic*)
- 1793A Cummings, J.J., Wang, H., "Nitric oxide decreases lung liquid production via guanosine 3',5'-cyclic monophosphate," *AJP*, Vol. 280, No. 5, L923-929, 2001. (*fetal sheep, pulmonary a., chronic*)
- 1655A Dunbar Ivy, D., de Cras, T.D., Parker, T.A., Zenge, J.P., Jakkula, M., Markham, N.E., Kinsella, J.P., Abman, S.H., "Developmental Changes in Endothelin Expression and Activity in the Ovine Fetal Lung," *American Journal of Physiology*, Vol. 278, No. 4, p. L785-793, 2000. (*fetal sheep, pulmonary a.*)
- 1628A Grover, T.R., Rairigh, R.L., Zenge, J.P., Abman, S.H., Kinsella, J.P., "Inhaled Carbon Dioxide Does Not Cause Pulmonary Vasodilation in the Late-Gestation Fetal Lamb," *American Journal of Physiology*, Vol. 278, No. 4, p. L779-L784, 2000. (*fetal sheep, pulmonary artery*)
- 1597A Konduri, G.G., Forman, K., Mital, S., "Characterization of Purine Receptors in Fetal Lamb Pulmonary Circulation," *Pediatric Research*, Vol. 47, No. 1, p. 114-120, 2000. (*fetal sheep, pulmonary artery*)
- 1586A Kabbani, M.S., Cassin, S., "The Effects of cGMP on Fetal Sheep Pulmonary Blood Flow and Lung Liquid Production," *Pediatric Research*, Vol. 43, No. 3, p. 325-330, 1998. (*fetal sheep, pulmonary artery*)
- 1585A Mital, S., Konduri, G.G., "Vascular Potassium Channels Mediate Oxygen-Induced Pulmonary Vasodilation in Fetal Lambs," *Biology of the Neonate*, Vol. 77, No. 1, p. 58-68, 2000. (*fetal sheep, pulmonary a.*)
- 1584A Konduri, G.G., Mital, S., Gervasio, C.T., Rotta, A.T., Forman, K., "Purine Nucleotides Contribute to Pulmonary Vasodilation Caused by Birth-Related Stimuli in the Ovine Fetus," *American Journal of Physiology*, Vol. 272, No. 5 (Pt.2), p. H2377-2384, 1997. (*fetal sheep, pulmonary a.*)
- 1585A Mital, S., Konduri, G.G., "Vascular Potassium Channels Mediate Oxygen-Induced Pulmonary Vasodilation in Fetal Lambs," *Biology of the Neonate*, Vol. 77, No. 1, p. 58-68, 2000. (*fetal sheep, pulmonary a.*)
- 1495A Rairigh, R.L., Le Cras, T.D., Ivy, D.D., Kinsella, J.P., Richter, G., Horan, M.P., Fan, I., Abman, S.H., "Role of Inducible Nitric Oxide Synthase in Regulation of Pulmonary Vasculature Tone in the Late Gestation Ovine Fetus," *Journal of Clinical Invest.*, Vol. 101, p. 15-21, 1998. (*fetal sheep, pulmonary artery*)
- 1486A Ivy, D.D., Parker, T.A., Ziegler, J.W., Galan, H.L., Kinsella, J.P., Tudor, R.M., Abman, S.H., "Prolonged Endothelin A Receptor Blockade Attenuates Chronic Pulmonary Hypertension in the Ovine Fetus," *Journal of Clinical Investigation*, Vol. 99, No. 6, p. 1179-1186, 1997. (*fetal sheep, pulmonary artery*)
- 1485A Black, W.M., Johengen, M.J., Ma, A., Bristow, J., Soifer, S.J., "Ventilation and Ixygenation Induce Endothelial Nitric Oxide Synthase Gene Expression in the Lungs of Fetal Lambs," *Journal of Clinical Invest.*, Vol. 100, No. 6, p. 1448-1458, 1997. (*fetal sheep, pulmonary artery*)
- 1456A Ibe, B.O., Hibler, W., Raj, J.U., "Platelet-Activating Factor Modulates Pulmonary Vasomotor Tone in the Perinatal Lamb," *Journal of Applied Physiology*, Vol. 85, p. 1079-1085, 1998. (*fetal sheep, pulmonary artery*)
- 1377A Gagnon, R., Lamb, T., Richardson, B., "Cerebral Circulatory Responses of Near-Term Ovine Fetuses during Sustained Fetal Placental Embolization," *American Journal of Physiology*, Vol. 273, pp. H2001-2008, 1997. (*fetal sheep, pulmonary artery, carotid artery*)
- 1237A Reddy, V.M., McElhinney, D.B., Rasasinghe, H.A., Lifficoart, J.R., Hendricks-Munoz, K., Fineman, J.R., Hanley, F.L., "Role of the Endothelium in Placental Dysfunction after Fetal Cardiac Bypass," *Journal of Thoracic and Cardiovascular Surgery*, Vol. 117, p. 343-351, 1999. (*fetal sheep, umbilical a, pulmonary a, inline(pump flow), acute*)
- 1218A De Vroomen, M., Takahashi, Y., Roman, C., Heymann, M.A., "Calcitonin gene-related peptide increases pulmonary blood flow in fetal sheep," *Am J Physiol* 1998 Jan; 274(1 pt 2):H277-82. (*fetal sheep, pulmonary a., chronic*)
- 733A Cummings, J.J., "Pulmonary Vasodilator Drugs Decrease Lung Liquid Production in Fetal Sheep," *Journal of Applied Physiology*, Vol. 79, No. 4, p. 1212-1218, 1995. (*fetal sheep, pulmonary a., chronic*)
- 626A Velvis, H., Hines, M.H., Klopfenstein, H., Berry, D.D., Vinten-Johansen, J., "Depression of Cardiac Function after Deep





## Fetal Sheep Publication References

- Hypothermic Circulatory Arrest in Deeply Anesthetized Neonatal Lambs," Journal of Thoracic and Cardiovascular Surgery, Vol. 111, p. 359-366, 1996. (*fetal sheep, PA, acute*)
- 504A Zayek, M., Cleveland, D., and Morin, F.C. "Treatment of Persistent Pulmonary Hypertension in the Newborn Lamb by Inhaled Nitric Oxide" The Journal of Pediatrics, Vol. 122, No.5, p. 743-750, 1993, SUNY Buffalo. (*fetal sheep, pulmonary a., acute*)
- 423A Konduri, G.G., Gervasio, C.T., Theodorou, A.A., "Role of Adenosine Triphosphate and Adenosine In Oxygen-Induced Pulmonary Vasodilation in Fetal Lambs," Pediatric Research, Vol. 33, No. 5, p. 533-539, 1993. (*fetal sheep, pulmonary a., chronic*)
- 422A Konduri, G.G., Theodorou, A.A., Mukhopadhyay, A., Deshmukh, D.R., "Adenosine Triphosphate and Adenosine Increase the Pulmonary Blood Flow to Postnatal Levels in Fetal Lambs," Pediatric Research, Vol. 31, No. 5, p. 451-457, 1992. (*fetal sheep, pulmonary a., chronic*)
- 391A Iwamoto, J., Morin III, F.C., "Nitric Oxide Inhibition Varies with Hemoglobin Saturation," Journal of Applied Physiology, Vol. 75, No. 5, p. 2332-2336, 1993. (*fetal sheep, pulmonary a., chronic*)
- 390A Tiktinsky, M.H., Morin III, F.C., "Increasing Oxygen Tension Dilates Fetal Pulmonary Circulation via Endothelium-Derived Relaxing Factor," American Journal of Physiology, Vol. 265, p. H376-H380, 1993. (*fetal sheep, pulmonary a., chronic*)
- 305A Chang, J-K, Moore, P., Fineman, J.R., Soifer, S.J., Heyman, M.A. "K+Channel Pulmonary Vasodilatation in Fetal Lambs: Role of Endothelium-Derived Nitric Oxide," Journal Applied Physiology, Vol. 73, No. 1, pp. 188-194, 1992. (*fetal sheep, pulmonary a., sub-acute*)
- 304A Moore, P., Velvis, H., Fineman, J.R., Soifer, S.J., Heyman, M.A. "EDRF Inhibition Attenuates the Increase in Pulmonary Blood Flow due to Oxygen Ventilation in fetal Lambs," Journal Applied Physiology, Vol. 73, No. 5, pp. 2151-2157, 1992. (*fetal sheep, pulmonary a., sub-acute*)
- 303A Velvis, H., Moore, P., Heyman, M.A. "Prostaglandin Inhibition Prevents the Fall in Pulmonary Vascular Resistance as a Result of Rhythmic Distension of the Lungs in Fetal Lambs," Pediatric Research, Vol. 30, No. 1, pp 62-68, 1991. (*fetal sheep, pulmonary a., sub-acute*)
- 289A Kinsella, J.P., McQueston, J.A., Rosenberg, A.A., Abman, S.H., "Hemodynamic Effects of Exogenous Nitric Oxide in Ovine Transitional Pulmonary Circulation, Am. J. Physiol., Vol. 263 (Heart Circ. Physiol. 32) p. H875-J880, 1992. (*fetal sheep, pulmonary a., acute*)
- 134A Moore, P., Hanson, M., Parkes, M., "Role of Chemoreceptors in the Control of the Fetal Pulmonary Circulation," Proceedings for the Society for the Study of Fetal Physiology, Vol. 16, D2, 1989. (*fetal sheep, pulmonary a., chronic*)

### **PULMONARY TRUNK**

- 500A Shiraishi, H., Silverman, N.H., and Rudolph, A.M. "Accuracy of Right Ventricular Output Estimated by Doppler Echocardiography in the Sheep Fetus," American Journal of Obstetrics and Gynecology, Vol. 168, No. 3, Part 1, p. 947-53, 1993. (*fetal sheep, pulmonary trunk, acute*)

### **RENAL A.**

- 2788A Kajino H, Roman C, Clyman RI, "Renal effects of cyclooxygenase-2 inhibition in fetal lambs," Biol Neonate, Vol. 82, No. 4, p. 257-62, 2002. (*fetal sheep, renal a., chronic*)
- 2172A Braaksma, M.A., Vos, J., Dassel, C.M., Aarnoudse, J.G., "Urine production rate and renal blood flow in the near-term ovine fetus are not related to high and low voltage electrocortical activity," Pediatr Res, Vol. 43, No. 1, p. 121-5, 1998. (*fetal sheep, renal a., chronic*)
- 1618A Braaksma, M.A., Dassel, C.M., Aarnoudse, J.G., "Renal Responses to Prolonged (48 h) Hypoxemia without Acidemia in the Late-Gestation Ovine Fetus," American Journal of Physiology, Vol. 277, No. 2, p. R395-R402, 1999. (*fetal sheep, renal artery*)
- 718A Bogaert, G.A., Kogan, B.A., Mevorach, R.A., Wong, J., Gluckman, G.R., Fineman, J.R., Heymann, M.A., "Exogenous Endothelin-1 Causes Renal Vasodilatation in the Fetal Lamb," Journal of Urology, Vol. 156, p. 847-853, 1996. (*fetal sheep, renal a., chronic*)
- 588A Bogaert, G.A., Gluckman, G.R., Mevorach, R.A., Kogan, B.A., "Renal Preservation Despite 35 Days of Partial Bladder Obstruction in the Fetal Lamb," Journal of Urology, Vol. 154, Vol 2, Pt 2, p. 694-699, 1995. (*fetal sheep, renal a., chronic*)





## Fetal Sheep Publication References

- 416A Konduri, G.G., Woodard, L.L., Mukhopadhyay, A., Deshmukh, D.R., "Adenosine Is a Pulmonary Dilator in Newborn Lambs," *American Rev. of Respiratory Disease*, Vol. 146, No. 3, p. 670-676, 1992. (*fetal sheep, renal a., chronic*)
- 413A Bogaert, G.A., Mevorach, R.A., Kogan, B.A., "Renal Hemodynamics and Functional Effects of 10 days' Partial Urinary Obstruction in the Fetal Lamb," *Journal of Urology*, Vol. 152, No. 1, p. 220-225, 1994. (*fetal sheep, renal a., chronic*)
- 386A Veille, J.C., Figueroa, J.P., Mueller-Heubach, E., "Validation of Noninvasive Fetal Renal Artery Flow Measurement by Pulsed Doppler in the Lamb," *American Journal Obstetrics & Gynecology*, Vol. 167, p. 1663-1667, 1992. (*fetal sheep, renal a., chronic*)
- 313A Bogaert, G.A., Kogan, B.A., Mevorach, R.A., "Effects of Endothelium-Derived Nitric Oxide on Renal Hemodynamics and Function in the Sheep Fetus," *Pediatric Research*, Vol. 34, p. 755-761, 1993. (*fetal sheep, renal a., chronic*)
- 312A Bogaert, G.A., Kogan, B.A., "Effects of Nitric-Oxide/Endothelium-Derived Relaxing Factor on Renal Hemodynamics and Function in the Sheep Fetus," *Journal of Urology Abstract* 1143, May, 1993. (*fetal sheep, renal a., chronic*)
- 311A Bogaert, G.A., Kogan, B.A., Mevorach, R.A., "Fetal Ovine Preparation for Study of Renal Function and Hemodynamics in Partial Lower Urinary Tract Obstruction," *European Society of Paediatric Urology Abstracts*, 4th annual meeting, April 1993. (*fetal sheep, renal a., chronic*)
- 310A Bogaert, G.A., , Mevorach, R.A., Kogan, B.A., "Renal Function and Blood Flow after Partial Bladder Obstruction in Fetal Sheep," *American Academy of Pediatrics Abstract*, 1993. (*fetal sheep, renal a., chronic*)

### SAGITTAL SINUS

- 2641A Czikk, M.J., Sweeley, J.C., Homan, J.H., Milley, J.R., Richardson, B.S., "Cerebral leucine uptake and protein synthesis in the near-term ovine fetus: relation to behavioral state," *AJP*, Vol. 284, No. 1, p. 200-7, 2003. (*superior sagittal sinus, chronic*)

### SUPERIOR MESENTERIC A.

- 1948 Bennet, L., Quaedackers, J.S.L.T., Gunn, A.J., Rossenrode, S., Heineman, E., "The effect of asphyxia on superior mesenteric artery blood flow in the premature sheep fetus," *Journal of Pediatric Surgery*, Vol. 35, No. 1, p. 33-40, 2000. (*fetal sheep, SMA, chronic*)

### UMBILICAL

- 2982A Thakor AS, Giussani DA, "Calcitonin Gene Related Peptide Contributes to the Umbilical Hemodynamic Defense Response to Acute Hypoxaemia," *J Physiol*. 2004 Dec 20; (fetal sheep, chronic, umbilical a.)
- 2944A Jellyman JK, Gardner DS, Fowden AL, Giussani DA., "Effects of dexamethasone on the uterine and umbilical vascular beds during basal and hypoxemic conditions in sheep," *Am J Obstet Gynecol*. 2004 Mar;190(3):825-35. sheep, umbilical
- 2935A Erkinaro T, Makikallio K, Kavasmaa T, Alahuhta S, Rasanen J., " Effects of ephedrine and phenylephrine on uterine and placental circulations and fetal outcome following fetal hypoxaemia and epidural-induced hypotension in a sheep model." *Br J Anaesth*. 2004 Dec;93(6):825-32. PMID: 15465843 sheep ewe and fetal uterine and placental
- 2866A Buchbinder A, Lang U, Baker RS, Khoury JC, Mershon J, Clark KE., "Leptin in the ovine fetus correlates with fetal and placental size," *Am J Obstet Gynecol*. 2001 Oct;185(4):786-91.
- 2869A Lang U, Baker RS, Braems G, Zygmunt M, Kunzel W, Clark KE, "Uterine blood flow—a determinant of fetal growth," *Eur J Obstet Gynecol Reprod Biol*. 2003 Sep 22;110 Suppl 1:S55-61.2581A Gardner, D.S., Giussani, D.A., Fowden, A.L., "Hindlimb glucose and lactate metabolism during umbilical cord compression and acute hypoxemia in the late-gestation ovine fetus," *AMP*, Vol. 284, No. 4, p. R954-64, 2003. (*fetal sheep, umbilical a., chronic*)
- 2486A Gardner, D.S., Ward, J.W., Giussani, D.A., Fowden, A.L., "The effect of a reversible period of adverse intrauterine conditions during late gesttion on fetal and placental weight and placentome distribution in sheep," *Placenta*, Vol. 23, No. 6, p. 459-66, 2002. (*fetal sheep, umbilical a., chronic*)
- 2409A Vedrinne, C, Tronc, F., Martinot, S., Robin, J., Allevard, A.M., Vincent, M., Lehot, J.J., Franck, M., Champsaur, G., "Better preservation of endothelial function and decreased activation of the fetal renin-angiotensin pathway with the use of pulsatile flow during experimental fetal bypass," *J Thorac Cardiovasc Surg*, Vol. 120, No. 4, p. 770-7, 2000. (*fetal sheep, umbilical a., desc. aorta, acute*)
- 2393A Gardner, D.S., Powlson, A.S., Giussani, D.A., "An in vivo nitric oxide clamp to investigate the influence of nitric oxide on continuous umbilical blood flow during acute hypoxaemia in the sheep fetus," *J Physiol*, Vol. 537, Pt. 2, p. 587-96, 2001. (*fetal sheep, umbilical a., chronic*)





## Fetal Sheep Publication References

- 2378A Gardner, D.S., Fletcher, A.J.W., Fowden, A.L., Giussani, D.A., "Plasma adrenocorticotropin and cortisol concentrations during acute hypoxemia after a reversible period of adverse intrauterine conditions in the ovine fetus during late gestation," *Endocrinology*, Vol. 142, No. 2, p. 589-598, 2001. (*fetal sheep, umbilical a., chronic*)
- 2075A Adamson, S.L., "Arterial pressure, vascular input impedance, and resistance as determinants of pulsatile blood flow in the umbilical artery," *Eur J Obstet Gynecol Reprod Biol*, Vol. 84, No. 2, p. 119-25, 1999. (*fetal sheep, umbilical a., chronic*)
- 1963A Kiserud, T., Ozaki, T., Nishina, H., Rodeck, C., Hanson, M.A., "Effect of NO, phenylephrine, and hypoxemia on ductus venosus diameter in fetal sheep," *AJP*, Vol. 279, No. 3, p. H1166-1171, 2000. (*fetal sheep, umbilical v., chronic*)
- 1662A Gagnon, R., Johnston, L., Murotsuki, J., "Fetal Placental Embolization in the Late-Gestation Ovine Fetus: Alterations in Umbilical Blood Flow and Fetal Heart Rate Patterns," *American Journal of Obstetrics and Gynecology*, Vol. 175, No. 1, p. 63-72, 1996. (*fetal sheep, umbilical a.*)
- 1575A Kumar, S., Tonn, G.R., Kwan, E., Hall, C., Riggs, K.W., Axelson, J.E., Rurak, D.W., "Estimation of Transplacental and Nonplacental Diphenhydramine Clearances in the Fetal Lamb: The Impact of Fetal First-Pass Hepatic Drug Uptake," *Journal of Pharmacology and Experimental Therapeutics*, Vol. 282, No. 2, p. 617-632, 1997. (*fetal sheep, umbilical artery*)
- 1237A Reddy, V.M., McElhinney, D.B., Rasasinghe, H.A., Lifficoart, J.R., Hendricks-Munoz, K., Fineman, J.R., Hanley, F.L., "Role of the Endothelium in Placental Dysfunction after Fetal Cardiac Bypass," *Journal of Thoracic and Cardiovascular Surgery*, Vol. 117, p. 343-351, 1999. (*fetal sheep, umbilical a, pulmonary a, inline (pump flow), acute*)
- 1056A Champsaur, G., Vedrinne, C., Martinot, S., Tronc, F., Robin, J., Ninet, J., Franck, M., "Flow-Induced Release of Endothelium-Derived Relaxing Factor during Pulsatile Bypass: Experimental Study in the Fetal Lamb," *Journal of Thoracic and Cardiovascular Surgery*, Vol. 114, No. 5, p. 738-745, 1997. (*fetal sheep, umbilical artery, descending aorta, acute*)
- 910A Unno, N., Giussani, D.A., Hing, W.K., Ding, X.Y., Collins, J.H., Nathanielsz, P.W. "Changes in Adrenocorticotropin and Cortisol Responsiveness after Repeated Partial Umbilical Cord Occlusions in the Late Gestation Ovine Fetus," *Endocrinology*, Vol. 138, No. 1, p. 259-263, 1997. (*fetal sheep, umbilical artery, chronic*)
- 866A Sokol, G.M., Leichty, E.A., Boyle, D.W. "Comparison of Steady-State Diffusion and Transit Time Ultrasonic Measurements of Umbilical Blood Flow in the Chronic Fetal Sheep Preparation," *American Journal of Obstetrics, Gynecology*, Vol. 174, No.5, p. 1456-1460, 1996. (*fetal sheep, umbilical, chronic*)
- 756A Clark, K.E., Mack, C., Khuory, J., "Effects of Chronic Instrumentation on Fetal Growth," *Journal of Developmental Physiology*, Vol. 14, p. 343-347, 1990. (*fetal sheep, umbilical, chronic*)
- 706A Hasan, S.U., Olsen, D.M., Rigaux, A., Bano, A., Pankovich, J., Connors, G.T., "Umbilical Arterial Blood Flow and Plasma Prostaglandins E2 Concentrations during Arousal and Breathing Movements in Fetal Sheep," *Pediatric Research*, Vol. 40, No. 5, p. 723-731, 1996. (*umbilical, fetal sheep, chronic*)
- 693A Stek, A.M., Baker, R.S., Fisher, B.K., Lang, U., Clark, K.E., "Fetal Responses to Maternal and Fetal Methamphetamine Administration in Sheep," *American Journal of Obstetrics and Gynecology*, Vol. 173, No. 5, p.1592-98, 1995. (*fetal sheep, umbilical a., uterine a., chronic*)
- 439A Clark, K.E., Irion, G.L., "Fetal Hemodynamic Response to Maternal Intravenous Nicotine Administration," *American Journal of Obstetrics & Gynecology*, Vol. 167, p. 1624-1631, 1992. (*fetal sheep, umbilical a., chronic*)
- 326A Hasan, S.U., Olsen, D.M., Connors, G.T., "Effect of Lung Distention and Oxygenation on Umbilical Blood Flow and Plasma Prostaglandin E<sub>2</sub> Concentrations in Fetal Sheep," 32th IUPS Congress, Glasgow, 1993, Poster # 282.22P. (*fetal sheep, umbilical, chronic*)
- 188A Copel, J.A., Schlafer, D., Wentworth, R., Belanger, K., Kreitzer, L., Hobbins, J.C., Nathanielsz, P.W., "Does the Umbilical Artery Systolic/Diastolic Ratio Reflect Flow or Acidosis? An Umbilical Artery Doppler Study of Fetal Sheep," *American Journal of Obstetrics and Gynecology*, Vol. 163, No. 3, pp. 751-756, 1990. (*fetal sheep, umbilical, chronic*)
- 182A Irion, G., Clark, K., "Relationship between the Ovine Fetal Umbilical Artery Blood Flow Waveform and Umbilical Vascular Resistance," *American Journal of Obstetrics and Gynecology*, Vol. 163, No. 1, p. 222-229, 1990. (*fetal sheep, umbilical, chronic*)
- 176A Thureen, P., Meshia, G., Makowski, E., Wilkening, R., "Growth Retardation Associated with Decreased Placental Glucose Transport Despite Normal Uterine Blood Flow," *Pediatric Research*, Vol. 27, No. 4:2, p. 54A, 1990.

