

Stanford



Richard Bland

Professor (Research) of Pediatrics (Neonatology), Emeritus
Pediatrics - Neonatal and Developmental Medicine

CONTACT INFORMATION

- **Alternate Contact**

Michelle Fox, BA, RVT - BASE Operations Manager

Email mfox1@stanford.edu

Tel 723-8239

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Pediatrics - Neonatal and Developmental Medicine
- Member, Cardiovascular Institute

HONORS AND AWARDS

- Honorary Doctor of Medicine, University of Uppsala, Sweden (2004)
- Distinguished Alumnus Award, Boston University School of Medicine (1996)
- Established Investigator, American Heart Association (1979-1984)
- Ogden C Bruton Award, Uniformed Services (1972, 1973)

PROFESSIONAL EDUCATION

- BA, Yale University , Social Sciences (1962)
- MD, Boston University , Medicine (1966)

LINKS

- Rabinovitch/Bland Lab: <http://med.stanford.edu/labs/rabinovitchbland/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research program focuses on lung growth and development, and the adverse impact of prolonged mechanical ventilation on the incompletely formed lung, which in very premature infants often leads to a life-threatening condition that was first described as bronchopulmonary dysplasia (Northway WH Jr et al, Stanford University, New Engl J Med 276: 357-368, 1967). This form of neonatal chronic lung disease is the leading cause of long-term hospitalization and recurrent respiratory disorders seen in tiny infants who have been born at less than 28 weeks of gestation. Failed alveolar formation and excess, disordered lung elastin are prominent histological features of this disease, which in some ways resembles adult emphysema. We study the effects of mechanical ventilation, with either air or 40% O₂, on genes and proteins that regulate lung growth and development in newborn mice, whose alveoli and pulmonary capillaries form mainly after birth at term gestation. As elastin

plays a crucial role in lung growth and development (elastin-null mice die soon after birth from cardiorespiratory failure related to defective alveolar and lung vascular formation), we are especially interested in studying the effects of prolonged mechanical ventilation (cyclic lung stretch) with O₂-rich gas (which is often needed to sustain life of extremely premature infants) on genes that regulate elastin synthesis and assembly, which in turn can affect lung septation and angiogenesis. We currently study the effects of lengthy mechanical ventilation on lungs of mutant newborn mice that have defects in elastin assembly and associated abnormalities of lung structure. Because mechanical ventilation of the developing lung can induce the release of proteolytic enzymes that break down elastin, we recently began to study the effects of mechanical ventilation with O₂-rich gas in a transgenic mouse that over-expresses elafin, a potent inhibitor of serine elastase activity. We think that these studies will pave the way for novel and effective strategies to treat or prevent neonatal chronic lung disease, and perhaps other respiratory disorders that exhibit similar pathological features in older children and adults.

Publications

PUBLICATIONS

- **Elafin Treatment Rescues EGFR-Klf4 Signaling and Lung Cell Survival in Ventilated Newborn Mice** *AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY*
Alcazar, M., Kaschwich, M., Ertsey, R., Preuss, S., Milla, C., Mujahid, S., Masumi, J., Khan, S., Mokres, L. M., Tian, L., Mohr, J., Hirani, D., Rabinovitch, et al
2018; 59 (5): 623–34
- **Elafin Treatment Rescues EGFR-Klf4 Signaling and Lung Cell Survival in Ventilated Newborn Mice.** *American journal of respiratory cell and molecular biology*
Alejandre Alcazar, M. A., Kaschwich, M., Ertsey, R., Preuss, S., Milla, C., Mujahid, S., Masumi, J., Khan, S., Mokres, L. M., Tian, L., Mohr, J., Hirani, D. V., Rabinovitch, et al
2018; 59 (5): 623–34
- **Elafin Reverses Pulmonary Hypertension via Caveolin-1-Dependent Bone Morphogenetic Protein Signaling** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
Nickel, N. P., Spiekerkoetter, E., Gu, M., Li, C. G., Li, H., Kaschwich, M., Diebold, I., Hennigs, J. K., Kim, K., Miyagawa, K., Wang, L., Cao, A., Sa, et al
2015; 191 (11): 1273-1286
- **Lung matrix and vascular remodeling in mechanically ventilated elastin haploinsufficient newborn mice.** *American journal of physiology. Lung cellular and molecular physiology*
Hilgendorff, A., Parai, K., Ertsey, R., Navarro, E., Jain, N., Carandang, F., Peterson, J., Mokres, L., Milla, C., Preuss, S., Alcazar, M. A., Khan, S., Masumi, et al
2015; 308 (5): L464-78
- **Neonatal mice genetically modified to express the elastase inhibitor elafin are protected against the adverse effects of mechanical ventilation on lung growth** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Hilgendorff, A., Parai, K., Ertsey, R., Rey-Parra, G. J., Thebaud, B., Tamosiuniene, R., Jain, N., Navarro, E. F., Starcher, B. C., Nicolls, M. R., Rabinovitch, M., Bland, R. D.
2012; 303 (3): L215-L227
- **Inhibiting Lung Elastase Activity Enables Lung Growth in Mechanically Ventilated Newborn Mice** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
Hilgendorff, A., Parai, K., Ertsey, R., Jain, N., Navarro, E. F., Peterson, J. L., Tamosiuniene, R., Nicolls, M. R., Starcher, B. C., Rabinovitch, M., Bland, R. D.
2011; 184 (5): 537-546
- **Prolonged mechanical ventilation with air induces apoptosis and causes failure of alveolar septation and angiogenesis in lungs of newborn mice** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Mokres, L. M., Parai, K., Hilgendorff, A., Ertsey, R., Alvira, C. M., Rabinovitch, M., Bland, R. D.
2010; 298 (1): L23-L35
- **Mechanical ventilation uncouples synthesis and assembly of elastin and increases apoptosis in lungs of newborn mice** *Am J Physiol Lung Cell Mol Physiol*
Bland, R., Ertsey R, Mokres LM, Xu L, Jacobson BE, Jiang S, Alvira CM, Rabinovitch M, Shinwell ES, Dixit A
2008; 294 (1): L3-L14
- **Mechanical ventilation with 40% oxygen reduces pulmonary expression of genes that regulate lung development and impairs alveolar septation in newborn mice** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Bland, R. D., Mokres, L. M., Ertsey, R., Jacobson, B. E., Jiang, S., Rabinovitch, M., Xu, L., Shinwell, E. S., Zhang, F., Beasley, M. A.

2007; 293 (5): L1099-L1110

- **Dysregulation of pulmonary elastin synthesis and assembly in preterm lambs with chronic lung disease** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Bland, R. D., Xu, L., Ertsey, R., Rabinovitch, M., Albertine, K. H., Wynn, K. A., Kumar, V. H., Ryan, R. M., Swartz, D. D., Csiszar, K., Fong, K. S.
2007; 292 (6): L1370-L1384
- **Inhaled nitric oxide effects on lung structure and function in chronically ventilated preterm lambs** *Am J Respir Crit Care Med*
Bland RD, Albertine KH, Carlton DP, MacRitchie AN
2005; 172 (7): 899-906
- **Neonatal chronic lung disease in the post-surfactant era - Lessons learned from authentic animal models** *International Symposium on Recent Advances in Neonatal Medicine*
Bland, R. D.
KARGER.2005: 181-91
- **Pulmonary vascular dysfunction in preterm lambs with chronic lung disease** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Bland, R. D., Ling, C. Y., Albertine, K. H., Carlton, D. P., MacRitchie, A. J., Day, R. W., Dahl, M. J.
2003; 285 (1): L76-L85
- **Reduced endothelial nitric oxide synthase in lungs of chronically ventilated preterm lambs** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
MacRitchie, A. N., Albertine, K. H., Sun, J. C., Lei, P. S., Jensen, S. C., Freestone, A. A., Clair, P. M., Dahl, M. J., Godfrey, E. A., Carlton, D. P., Bland, R. D.
2001; 281 (4): L1011-L1020
- **Chronic lung injury in preterm lambs: Abnormalities of the pulmonary circulation and lung fluid balance** *PEDIATRIC RESEARCH*
Bland, R. D., Albertine, K. H., Carlton, D. P., Kullama, L., Davis, P., Cho, S. C., Kim, B. I., DAHL, M., Tabatabaei, N.
2000; 48 (1): 64-74
- **Chronic lung injury in preterm lambs - Disordered respiratory tract development** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
Albertine, K. H., Jones, C. P., Starcher, B. C., Bohnsack, J. F., Davis, P. L., Cho, S. C., Carlton, D. P., Bland, R. D.
1999; 159 (3): 945-958
- **Chronic lung injury in preterm lambs: Disordered pulmonary elastin deposition** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Pierce, R. A., Albertine, K. H., Starcher, B. C., Bohnsack, J. F., Carlton, D. P., Bland, R. D.
1997; 272 (3): L452-L460
- **Lung matrix and vascular remodeling in mechanically ventilated elastin haploinsufficient newborn mice.** *American journal of physiology. Lung cellular and molecular physiology*
Hilgendorff, A., Parai, K., Ertsey, R., Navarro, E., Jain, N., Carandang, F., Peterson, J., Mokres, L., Milla, C., Preuss, S., Alcazar, M. A., Khan, S., Masumi, et al
2015; 308 (5): L464-78
- **Elafin Preserves A Novel Egf Receptor-Kruppel-Like Factor 4 (EGFR-Klf4) Axis And Attenuates Apoptosis In Lungs Of Mechanically Ventilated Newborn Mice**
Alcazar, M., Kaschwich, M., Ertsey, R., Preuss, S., Mujahid, S., Masumi, J., Khan, S., Mokres, L., Rabinovitch, M., Bland, R.
AMER THORACIC SOC.2015
- **Gunnar Sedin OBITUARY** *ACTA PAEDIATRICA*
Bland, R. D., Jonzon, A.
2014; 103 (8): 893
- **Tgf beta Blockade Preserves Vascular Endothelial Growth Factor (VEGF) Signaling And Enables Alveolar Formation In Mechanically Ventilated Newborn Mice**
Alcazar, M., Parai, K., Hilgendorff, A., Preuss, S., Kaschwich, M., Ertsey, R., Mokres, L., Navarro, E. F., Rabinovitch, M., Bland, R. D.
AMER THORACIC SOC.2014
- **Molecular determinants of lung development.** *Annals of the American Thoracic Society*
Morrisey, E. E., Cardoso, W. V., Lane, R. H., Rabinovitch, M., Abman, S. H., Ai, X., Albertine, K. H., Bland, R. D., Chapman, H. A., Checkley, W., Epstein, J. A., Kintner, C. R., Kumar, et al

2013; 10 (2): S12-6

- **Chronic lung disease in preterm lambs: effect of daily vitamin A treatment on alveolarization** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Albertine, K. H., Dahl, M. J., Gonzales, L. W., Wang, Z., Metcalfe, D., Hyde, D. M., Plopper, C. G., Starcher, B. C., Carlton, D. P., Bland, R. D.
2010; 299 (1): L59-L72
- **Adverse Pulmonary Effects of Mechanical Ventilation Are Blunted in Transgenic Newborn Mice That Over-Express the Serine Elastase Inhibitor Elafin**
Hilgendorff, A., Parai, K., Ertsey, R., Starcher, B., Jain, N., Rabinovitch, M., Bland, R.
SPRINGER.2010: 384–85
- **ADVERSE EFFECTS OF MECHANICAL VENTILATION (MV) ARE BLUNTED IN TRANSGENIC NEWBORN MICE THAT OVER-EXPRESS THE SERINE ELASTASE INHIBITOR ELAFIN**
Hilgendorff, A., Parai, K., Ertsey, R., Mokres, L., Rey-Parra, J., Thebaud, B., Jain, N., Navarro, E., RABINOVITCH, M., Bland, R.
WILEY-BLACKWELL.2009: 27–27
- **VENTILATION WITH EITHER AIR OR 40%-O-2 INDUCES APOPTOSIS AND CAUSES FAILURE OF ALVEOLAR SEPTATION AND PULMONARY ANGIOGENESIS IN NEWBORN MICE**
Hilgendorff, A., Parai, K., Mokres, L., Ertsey, R., Alvira, C., Bland, R.
WILEY-BLACKWELL.2009: 27–28
- **Mechanical Ventilation (MV) for 24 Hours Disrupts VEGF Signaling, Induces Apoptosis and Inhibits Formation of Alveoli and Lung Blood Vessels in Newborn Mice.**
Hilgendorff, A., Parai, K., Mokres, L., Ertsey, R., Alvira, C., Bland, R., Wall Cardiopulm Ctr
AMER THORACIC SOC.2009
- **Chronic minocycline-induced autoimmunity in children** *JOURNAL OF PEDIATRICS*
El-Hallak, M., Giani, T., Yeniay, B. S., Jacobs, K. E., Kim, S., Sundel, R. P., Dedeoglu, F., Nielson, D. W., Bland, R. D.
2008; 153 (3): 314-319
- **Blunted hypoxic pulmonary vasoconstriction in experimental neonatal chronic lung disease** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE*
Rey-Parra, G. J., Archer, S. L., Bland, R. D., Albertine, K. H., Carlton, D. P., Cho, S., Kirby, B., Haromy, A., Eaton, F., Wu, X., Thebaud, B.
2008; 178 (4): 399-406
- **Altered expression of key growth factors (TGF alpha, TGF beta 1, PDGF-A) and flawed formation of alveoli and elastin (Eln) in lungs of preterm (PT) lambs with chronic lung disease (CLD)** *Experimental Biology 2006 Annual Meeting*
Xu, L. W., RABINOVITCH, M., Bland, R.
FEDERATION AMER SOC EXP BIOL.2006: A1442–A1443
- **Mechanical ventilation (MV) of newborn mice for 24 h leads to reduced VEGF receptor-2 (VEGFR2) and tenascin-C (TNC) proteins, enlarged airspaces and increased lung elastin (Eln)** *Experimental Biology 2006 Annual Meeting*
Bland, R., Jacobson, B., Ertsey, R., Mokres, L., Jiang, S., Xu, L. W., Dixit, A.
FEDERATION AMER SOC EXP BIOL.2006: A1261–A1261
- **Increased expression of genes associated with elastin synthesis and assembly in lungs of mechanically ventilated preterm lambs compared to term lambs** *Experimental Biology 2005 Meeting/35th International Congress of Physiological Sciences*
Bland, R. D., Xu, L. W., RABINOVITCH, M., Kumar, V., Ryan, R. M., Wynn, K.
FEDERATION AMER SOC EXP BIOL.2005: A1603–A1603
- **Mechanical ventilation of newborn mice: impact on genes that regulate lung development**
Jacobson, B., Ertsey, R., Bland, R.
FEDERATION AMER SOC EXP BIOL.2005: A1603
- **Neonatal chronic lung disease in the post-surfactant era.** *Biology of the neonate*
Bland, R. D.
2005; 88 (3): 181–91
- **Effects of mechanical ventilation on genes that regulate lung development in newborn mice.**
Jacobson, B., Bland, R.
B C DECKER INC.2005: S109

- **Neonatal chronic lung disease (CLD) in terms vs. preterm lambs: Differing paradigms of lung injury and repair** *Annual Meeting of the Pediatric-Academic-Societies*
Bland, R., Xu, L., Kolansky, S., RABINOVITCH, M., Ryan, R., Kumar, V., Wynn, K., Swart, D., Albertine, K., Duhl, M., Williams, M.
NATURE PUBLISHING GROUP.2004: 437A-438A
- **Impaired alveolar development and abnormal lung elastin in preterm lambs with chronic lung injury: Potential benefits of retinol treatment** *18th Annual International Workshop on Surfactant Replacement*
Bland, R. D., Albertine, K. H., Pierce, R. A., Starcher, B. C., Carlton, D. P.
KARGER.2003: 101-2
- **Novel notions on newborn lung disease** *NATURE MEDICINE*
Rabinovitch, M., Bland, R.
2002; 8 (7): 664-666
- **Loss of liquid from the lung lumen in labor: more than a simple "squeeze"** *AMERICAN JOURNAL OF PHYSIOLOGY-LUNG CELLULAR AND MOLECULAR PHYSIOLOGY*
Bland, R. D.
2001; 280 (4): L602-L605
- **Inhaled nitric oxide: A premature remedy for chronic lung disease?** *PEDIATRICS*
Bland, R. D.
1999; 103 (3): 667-670
- **Altered vascular development in preterm lambs with chronic lung injury** *Thomas L Petty 40th Annual Aspen Lung Conference on Biology and Pathobiology of the Lung Circulation*
Albertine, K. H., MacRitchie, A. N., Young, B. J., Cho, S. C., Kullama, L. K., Carlton, D. P., Bland, R. D.
AMER COLL CHEST PHYSICIANS.1998: 6S-7S
- **Role of neutrophils in lung vascular injury and edema after premature birth in lambs** *JOURNAL OF APPLIED PHYSIOLOGY*
Carlton, D. P., Albertine, K. H., Cho, S. C., LONT, M., Bland, R. D.
1997; 83 (4): 1307-1317
- **VASOPRESSIN EFFECTS ON LUNG LIQUID VOLUME IN FETAL SHEEP** *PEDIATRIC RESEARCH*
Cummings, J. J., Carlton, D. P., Poulain, F. R., Fike, C. D., Keil, L. C., Bland, R. D.
1995; 38 (1): 30-35
- **RETROVIRUS-MEDIATED GENE-TRANSFER IN LUNGS OF LIVING FETAL SHEEP** *GENE THERAPY*
Pitt, B. R., Schwarz, M. A., Pilewski, J. M., Nakayama, D., Mueller, G. M., Robbins, P. D., Watkins, S. A., Albertine, K. H., Bland, R. D.
1995; 2 (5): 344-350
- **SURFACTANT TREATMENT AT BIRTH REDUCES LUNG VASCULAR INJURY AND EDEMA IN PRETERM LAMBS** *PEDIATRIC RESEARCH*
Carlton, D. P., Cho, S. C., Davis, P., LONT, M., Bland, R. D.
1995; 37 (3): 265-270
- **LUNG VASCULAR PROTEIN PERMEABILITY IN PRETERM FETAL AND MATURE NEWBORN SHEEP** *JOURNAL OF APPLIED PHYSIOLOGY*
Carlton, D. P., Cummings, J. J., SCHEERER, R. G., Bland, R. D.
1994; 77 (2): 782-788
- **Inflation pressure and lung vascular injury in preterm lambs.** *Chest*
Carlton, D. P., Cho, S. C., Davis, P., Bland, R. D.
1994; 105 (3): 115S-116S
- **CHANGES IN LUNG LIQUID DURING SPONTANEOUS LABOR IN FETAL SHEEP** *JOURNAL OF APPLIED PHYSIOLOGY*
Chapman, D. L., Carlton, D. P., Nielson, D. W., Cummings, J. J., Poulain, F. R., Bland, R. D.
1994; 76 (2): 523-530
- **HYPOPROTEINEMIA SLOWS LUNG LIQUID CLEARANCE IN YOUNG LAMBS** *JOURNAL OF APPLIED PHYSIOLOGY*
Cummings, J. J., Carlton, D. P., Poulain, F. R., Raj, J. U., Bland, R. D.
1993; 74 (1): 153-160

- **INCREASED PULMONARY VASCULAR FILTRATION PRESSURE DOES NOT ALTER LUNG LIQUID SECRETION IN FETAL SHEEP** *JOURNAL OF APPLIED PHYSIOLOGY*
Carlton, D. P., Cummings, J. J., Poulain, F. R., Bland, R. D.
1992; 72 (2): 650-655
- **ION-TRANSPORT REGULATION OF LUNG LIQUID SECRETION IN FETAL LAMBS** *JOURNAL OF DEVELOPMENTAL PHYSIOLOGY*
Carlton, D. P., Cummings, J. J., Chapman, D. L., Poulain, F. R., Bland, R. D.
1992; 17 (2): 99-107
- **DEVELOPMENTAL-CHANGES IN LUNG EPITHELIAL ION-TRANSPORT AND LIQUID MOVEMENT** *ANNUAL REVIEW OF PHYSIOLOGY*
Bland, R. D., Nielson, D. W.
1992; 54: 373-394
- **INTRAPULMONARY TERBUTALINE AND AMINOPHYLLINE DECREASE LUNG LIQUID IN FETAL LAMBS** *PEDIATRIC RESEARCH*
Chapman, D. L., Carlton, D. P., Cummings, J. J., Poulain, F. R., Bland, R. D.
1991; 29 (4): 357-361
- **Pathophysiology of neonatal lung injury.** *International journal of technology assessment in health care*
Bland, R. D.
1991; 7: 56-60
- **DEVELOPMENTAL-CHANGES IN PLEURAL LIQUID PROTEIN-CONCENTRATION IN SHEEP** *AMERICAN REVIEW OF RESPIRATORY DISEASE*
Broadus, V. C., Araya, M., Carlton, D. P., Bland, R. D.
1991; 143 (1): 38-41
- **DEVELOPMENTAL DIFFERENCES IN RABBIT LUNG EPITHELIAL-CELL NA⁺-K⁺-ATPASE** *AMERICAN JOURNAL OF PHYSIOLOGY*
Chapman, D. L., Widdicombe, J. H., Bland, R. D.
1990; 259 (6): L481-L487
- **LUNG OVEREXPANSION INCREASES PULMONARY MICROVASCULAR PROTEIN PERMEABILITY IN YOUNG LAMBS** *JOURNAL OF APPLIED PHYSIOLOGY*
Carlton, D. P., Cummings, J. J., SCHEERER, R. G., Poulain, F. R., Bland, R. D.
1990; 69 (2): 577-583
- **LUNG EPITHELIAL ION-TRANSPORT AND FLUID MOVEMENT DURING THE PERINATAL-PERIOD** *AMERICAN JOURNAL OF PHYSIOLOGY*
Bland, R. D.
1990; 259 (2): L30-L37
- **FUROSEMIDE REDUCES LUNG FLUID FILTRATION IN LAMBS WITH LUNG MICROVASCULAR INJURY FROM AIR EMBOLI** *JOURNAL OF APPLIED PHYSIOLOGY*
BERNER, M. E., Teague, W. G., SCHEERER, R. G., Bland, R. D.
1989; 67 (5): 1990-1996
- **LUNG FLUID BALANCE IN LAMBS BEFORE AND AFTER PREMATURE BIRTH** *JOURNAL OF CLINICAL INVESTIGATION*
Bland, R. D., Carlton, D. P., SCHEERER, R. G., Cummings, J. J., Chapman, D. L.
1989; 84 (2): 568-576
- **EFFECT OF PULMONARY PERFUSION ON LUNG FLUID FILTRATION IN YOUNG LAMBS** *AMERICAN JOURNAL OF PHYSIOLOGY*
Teague, W. G., BERNER, M. E., Bland, R. D.
1988; 255 (6): H1336-H1341
- **MICROVASCULAR PRESSURES DURING HYPOXIA IN ISOLATED LUNGS OF NEWBORN RABBITS** *JOURNAL OF APPLIED PHYSIOLOGY*
Fike, C. D., LaiFook, S. J., Bland, R. D.
1988; 65 (1): 283-287
- **LUNG LIQUID CLEARANCE BEFORE AND AFTER BIRTH** *SEMINARS IN PERINATOLOGY*
Bland, R. D.
1988; 12 (2): 124-133
- **ALVEOLAR LIQUID PRESSURES IN NEWBORN AND ADULT-RABBIT LUNGS** *JOURNAL OF APPLIED PHYSIOLOGY*

- Fike, C. D., LaiFook, S. J., Bland, R. D.
1988; 64 (4): 1629-1635
- **EFFECT OF HYPOXIA ON LUNG LYMPH-FLOW IN NEWBORN LAMBS WITH LEFT ATRIAL HYPERTENSION** *AMERICAN JOURNAL OF PHYSIOLOGY*
Raj, J. U., Hazinski, T. A., Bland, R. D.
1988; 254 (3): H487-H493
 - **LUNG VASCULAR EFFECTS OF LIPID INFUSION IN AWAKE LAMBS** *PEDIATRIC RESEARCH*
Teague, W. G., Raj, J. U., Braun, D., BERNER, M. E., Clyman, R. I., Bland, R. D.
1987; 22 (6): 714-719
 - **MICROVASCULAR PRESSURES MEASURED BY MICROPUNCTURE IN LUNGS OF NEWBORN RABBITS** *JOURNAL OF APPLIED PHYSIOLOGY*
Fike, C. D., LaiFook, S. J., Bland, R. D.
1987; 63 (3): 1070-1075
 - **Pathogenesis of pulmonary edema after premature birth.** *Advances in pediatrics*
Bland, R. D.
1987; 34: 175-221
 - **EFFECT OF HYPOPROTEINEMIA ON LUNG FLUID BALANCE IN AWAKE NEWBORN LAMBS** *JOURNAL OF APPLIED PHYSIOLOGY*
Hazinski, T. A., Bland, R. D., Hansen, T. N., SEDIN, E. G., Goldberg, R. B.
1986; 61 (3): 1139-1148
 - **LUNG LUMINAL LIQUID CLEARANCE IN NEWBORN LAMBS - EFFECT OF PULMONARY MICROVASCULAR PRESSURE ELEVATION** *AMERICAN REVIEW OF RESPIRATORY DISEASE*
Raj, J. U., Bland, R. D.
1986; 134 (2): 305-310
 - **CATION-TRANSPORT IN LUNG EPITHELIAL-CELLS DERIVED FROM FETAL, NEWBORN, AND ADULT-RABBITS** *JOURNAL OF APPLIED PHYSIOLOGY*
Bland, R. D., Boyd, C. A.
1986; 61 (2): 507-515
 - **MICROVASCULAR PRESSURES MEASURED BY MICROPIPETTES IN ISOLATED EDEMATOUS RABBIT LUNGS** *JOURNAL OF APPLIED PHYSIOLOGY*
Raj, J. U., Bland, R. D., LaiFook, S. J.
1986; 60 (2): 539-545
 - **OXYGEN-INDUCED LUNG MICROVASCULAR INJURY IN NEUTROPENIC RABBITS AND LAMBS** *JOURNAL OF APPLIED PHYSIOLOGY*
Raj, J. U., Hazinski, T. A., Bland, R. D.
1985; 58 (3): 921-927
 - **LUNG FLUID BALANCE IN HYPOXIC LAMBS** *PEDIATRIC RESEARCH*
Hansen, T. N., Haberkern, C. M., Hazinski, T. A., Bland, R. D.
1984; 18 (5): 434-440
 - **EFFECTS OF ASPHYXIA ON LUNG FLUID BALANCE IN BABY LAMBS** *JOURNAL OF CLINICAL INVESTIGATION*
Hansen, T. N., Hazinski, T. A., Bland, R. D.
1984; 74 (2): 370-376
 - **Neutrophil depletion does not prevent oxygen-induced lung injury in rabbits.** *Chest*
Raj, J. U., Bland, R. D.
1983; 83 (5): 20S-21S
 - **VIBRATORY VENTILATION DECREASES FILTRATION OF FLUID IN THE LUNGS OF NEWBORN LAMBS** *CIRCULATION RESEARCH*
Raj, J. U., Goldberg, R. B., Bland, R. D.
1983; 53 (4): 456-463
 - **NEUTROPHIL DEPLETION DOES NOT PREVENT OXYGEN-INDUCED LUNG INJURY IN RABBITS** *CHEST*
Raj, J. U., Bland, R. D.

1983; 83 (5): S20-S21

- **HIGH-FREQUENCY MECHANICAL VENTILATION IN THE TREATMENT OF NEONATAL RESPIRATORY-DISTRESS** *INTERNATIONAL ANESTHESIOLOGY CLINICS*
Bland, R. D., SEDIN, E. G.
1983; 21 (3): 125-147
- **DYNAMICS OF PULMONARY WATER BEFORE AND AFTER BIRTH** *ACTA PAEDIATRICA SCANDINAVICA*
Bland, R. D.
1983: 12-20
- **EDEMA FORMATION IN THE LUNGS AND ITS RELATIONSHIP TO NEONATAL RESPIRATORY-DISTRESS** *ACTA PAEDIATRICA SCANDINAVICA*
Bland, R. D.
1983: 92-99
- **STUDIES OF LUNG FLUID BALANCE IN NEWBORN LAMBS** *ANNALS OF THE NEW YORK ACADEMY OF SCIENCES*
Bland, R. D., Hansen, T. A., Hazinski, T. A., Haberkern, C. M., Bressack, M. A.
1982; 384 (MAY): 126-145
- **PULMONARY MICRO-CIRCULATION - FUNCTION-I. 2. GENERAL DISCUSSION** *ANNALS OF THE NEW YORK ACADEMY OF SCIENCES*
Brigham, K. L., Gillis, C. N., Junod, A. F., Linehan, J. H., Staub, N. C., Long, M. C., Butler, J., Reid, L., Bland, R. D., Dawson, C. A., Meyrick, B., Mellins, R. B., Nicolaysen, et al
1982; 384 (MAY): 166-168
- **VITAMIN-E DOES NOT PREVENT OXYGEN-INDUCED LUNG INJURY IN NEWBORN LAMBS** *PEDIATRIC RESEARCH*
Hansen, T. N., Hazinski, T. A., Bland, R. D.
1982; 16 (7): 583-587
- **EDEMA FORMATION IN THE NEWBORN LUNG** *CLINICS IN PERINATOLOGY*
Bland, R. D.
1982; 9 (3): 593-611
- **ONTOGENY AND REGULATION OF CORTICOSTEROID BINDING GLOBULIN CAPACITY IN PLASMA OF FETAL AND NEWBORN LAMBS** *ENDOCRINOLOGY*
Ballard, P. L., KITTERMAN, J. A., Bland, R. D., Clyman, R. I., Gluckman, P. D., Platzker, A. C., Kaplan, S. L., Grumbach, M. M.
1982; 110 (2): 359-366
- **LUNG FLUID BALANCE IN LAMBS BEFORE AND AFTER BIRTH** *JOURNAL OF APPLIED PHYSIOLOGY*
Bland, R. D., Hansen, T. N., Haberkern, C. M., Bressack, M. A., Hazinski, T. A., Raj, J. U., Goldberg, R. B.
1982; 53 (4): 992-1004
- **EFFECT OF HYPERCAPNIA ON NET FILTRATION OF FLUID IN THE LUNGS OF AWAKE NEWBORN LAMBS** *JOURNAL OF APPLIED PHYSIOLOGY*
Haberkern, C. M., Bland, R. D.
1981; 51 (2): 423-427
- **INTRAVENOUS-INFUSION OF TOLAZOLINE REDUCES PULMONARY VASCULAR-RESISTANCE AND NET FLUID FILTRATION IN THE LUNGS OF AWAKE, HYPOXIC NEWBORN LAMBS** *AMERICAN REVIEW OF RESPIRATORY DISEASE*
Bressack, M. A., Bland, R. D.
1981; 123 (2): 217-221
- **CLEARANCE OF LIQUID FROM LUNGS OF NEWBORN RABBITS** *JOURNAL OF APPLIED PHYSIOLOGY*
Bland, R. D., McMillan, D. D., Bressack, M. A., Dong, L.
1980; 49 (2): 171-177
- **SPECIAL CONSIDERATIONS IN OXYGEN-THERAPY FOR INFANTS AND CHILDREN** *AMERICAN REVIEW OF RESPIRATORY DISEASE*
Bland, R. D.
1980; 122 (5): 45-54
- **ALVEOLAR HYPOXIA INCREASES LUNG FLUID FILTRATION IN UNANESTHETIZED NEWBORN LAMBS** *CIRCULATION RESEARCH*

- Bressack, M. A., Bland, R. D.
1980; 46 (1): 111-116
- **HIGH-FREQUENCY MECHANICAL VENTILATION IN SEVERE HYALINE-MEMBRANE DISEASE - AN ALTERNATIVE TREATMENT** *CRITICAL CARE MEDICINE*
Bland, R. D., Kim, M. H., Light, M. J., WOODSON, J. L.
1980; 8 (5): 275-280
 - **LUNG FLUID BALANCE IN HYPOXIC, AWAKE NEWBORN LAMBS AND MATURE SHEEP** *BIOLOGY OF THE NEONATE*
Bland, R. D., Bressack, M. A., Haberkern, C. M., Hansen, T. N.
1980; 38 (5-6): 221-228
 - **PULMONARY OXYGEN-TOXICITY - INCREASED MICRO-VASCULAR PERMEABILITY TO PROTEIN IN UNANESTHETIZED LAMBS** *LYMPHOLOGY*
Bressack, M. A., McMillan, D. D., Bland, R. D.
1979; 12 (3): 133-139
 - **LABOR DECREASES THE LUNG WATER-CONTENT OF NEWBORN RABBITS** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*
Bland, R. D., Bressack, M. A., McMillan, D. D.
1979; 135 (3): 364-367
 - **LUNG FLUID BALANCE IN AWAKE NEWBORN LAMBS WITH PULMONARY-EDEMA FROM RAPID INTRAVENOUS-INFUSION OF ISOTONIC SALINE** *PEDIATRIC RESEARCH*
Bland, R. D., Bressack, M. A.
1979; 13 (9): 1037-1042
 - **DECREASED PULMONARY TRANSVASCULAR FLUID FILTRATION IN AWAKE NEWBORN LAMBS AFTER INTRAVENOUS FUROSEMIDE** *JOURNAL OF CLINICAL INVESTIGATION*
Bland, R. D., McMillan, D. D., Bressack, M. A.
1978; 62 (3): 601-609
 - **PULMONARY TRANSVASCULAR FLUID FILTRATION AND MICROVASCULAR PERMEABILITY TO PLASMA-PROTEINS IN AWAKE NEWBORN LAMBS** *CHEST*
Bland, R. D., McMillan, D. D.
1977; 71 (2): 274-274
 - **EFFECTS OF ALVEOLAR HYPOXIA ON LUNG FLUID AND PROTEIN TRANSPORT IN UNANESTHETIZED SHEEP** *CIRCULATION RESEARCH*
Bland, R. D., Demling, R. H., Selinger, S. L., Staub, N. C.
1977; 40 (3): 269-274
 - **LUNG FLUID-DYNAMICS IN AWAKE NEWBORN LAMBS** *JOURNAL OF CLINICAL INVESTIGATION*
Bland, R. D., McMillan, D. D.
1977; 60 (5): 1107-1115
 - **MOVEMENT OF WATER AND PROTEIN IN FETAL AND NEWBORN LUNG** *ANNALES DE RECHERCHES VETERINAIRES*
Bland, R. D., McMillan, D. D., Bressack, M. A.
1977; 8 (4): 418-427
 - **RAPID INFUSION OF SODIUM-BICARBONATE AND ALBUMIN INTO HIGH-RISK PREMATURE-INFANTS SOON AFTER BIRTH - CONTROLLED, PROSPECTIVE TRIAL** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*
Bland, R. D., Clarke, T. L., HARDEN, L. B.
1976; 124 (3): 263-267
 - **EFFECT OF ACUTE HEMORRHAGIC-SHOCK ON PULMONARY MICROVASCULAR FLUID FILTRATION AND PROTEIN PERMEABILITY IN SHEEP** *SURGERY*
Demling, R. H., Selinger, S. L., Bland, R. D., Staub, N. C.
1975; 77 (4): 512-519
 - **PREPARATION OF CHRONIC LUNG LYMPH FISTULAS IN SHEEP** *JOURNAL OF SURGICAL RESEARCH*
Staub, N. C., Bland, R. D., Brigham, K. L., Demling, R., ERDMANN, A. J., WOOLVERTON, W. C.
1975; 19 (5): 315-320

- **DISTRIBUTION VOLUMES OF [ALBUMIN-I-131, [SUCROSE-C-14, AND CL-36 IN SHEEP LUNG** *JOURNAL OF APPLIED PHYSIOLOGY*
Selinger, S. L., Bland, R. D., Demling, R. H., Staub, N. C.
1975; 39 (5): 773-779
- **EARLY ALBUMIN INFUSION TO INFANTS AT RISK FOR RESPIRATORY DISTRESS** *ARCHIVES OF DISEASE IN CHILDHOOD*
Bland, R. D., Clarke, T. L., HARDEN, L. B., Meyer, J. L., RIES, J. P., MADDEN, W. A., CRAST, F. W., COYER, W. F., Bass, J. W.
1973; 48 (10): 800-805
- **OTITIS MEDIA IN FIRST 6 WEEKS OF LIFE - DIAGNOSIS, BACTERIOLOGY, AND MANAGEMENT** *PEDIATRICS*
Bland, R. D.
1972; 49 (2): 187-?
- **CORD-BLOOD TOTAL PROTEIN LEVEL AS A SCREENING AID FOR IDIOPATHIC RESPIRATORY-DISTRESS SYNDROME** *NEW ENGLAND JOURNAL OF MEDICINE*
Bland, R. D.
1972; 287 (1): 9-?