

**University of California, San Francisco  
CURRICULUM VITAE**

**Name:** Philip C. Ursell, MD

**Position:** Professor of Clinical Pathology  
Department of Pathology  
School of Medicine

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**Education:**

1968—1972	Haverford College, Haverford, PA	B.A.	Cum Laude, Chemistry
1972—1976	College of Physicians and Surgeons, Columbia University, New York, NY	M.D.	Medicine
1976—1977	Children's Hospital National Med Ctr Washington, DC	Intern	Pediatrics
1977-1978	Children's Hospital National Med Ctr Washington, DC	Resident	Pediatrics
1978—1980	Columbia—Presbyterian Med Ctr New York, NY	Resident	Pathology
1980-1983	Columbia University, New York, NY	Fellow	Cardiac Pathology
10/82—12/83	Brompton Hospital, Cardiothoracic Institute, London, UK	Visiting Fellow	Pediatric Cardiac Morphology

**Licenses, Certification:**

1977	Diplomate, National Board of Medical Examiners
1979	Medical Licensure, New York
1983	Certification, American Board of Pathology—Anatomic Pathology
1991	Medical Licensure, California

**Principal Positions Held:**

1983—1990	Columbia University, NY, NY	Assistant Professor	Pathology
1990—1991	Columbia University, NY, NY	Associate Professor	Clinical Pathology
1991—1998	University of CA, San Francisco	Assoc. Prof. In Residence	Pathology

1998—2007	University of CA, San Francisco	Professor In Residence	Pathology
2007—now	University of CA, San Francisco	Prof. of Clinical Pathology	Pathology

### Other Positions Held Concurrently:

1986-1990	Columbia University, NY, NY	Assistant Director of Pediatric Pathology
1990-1991	Columbia University, NY, NY	Director, Section on Developmental Pathology
1992-2003	University of CA, San Francisco	Associate Director, Autopsy Service
2003-now	University of CA, San Francisco	Director, Autopsy Service
2002-2010	University of CA, San Francisco	Director, Research Morphology Core Facility

### Honors and Awards:

1972	Phi Beta Kappa, Haverford College
1983	Honorable Mention: Young Investigator Award Competition, American College of Cardiology

### Keywords/Areas of Interest:

Heart disease, congenital heart defects, anatomy of conduction tissues, ventricular arrhythmias complicating myocardial infarction, developmental pathology, gene modification to cardiac tissues, medical education

### Professional Activities:

#### Clinical

Director, Autopsy Service, UCSF: In addition to administrative duties, Dr. Ursell attends on the service approximately 15-20 weeks per year, being responsible for both adult and pediatric cases. In addition, the rest of the year, he is responsible for virtually all pediatric cases.

Attending, Surgical Pathology, UCSF: Dr. Ursell is responsible for virtually all cardiovascular specimens—especially explants, endomyocardial biopsies—throughout the year and is consulted on the majority of the rest—valves, arterial biopsies, etc.

### Professional Organizations:

1984-2005	American Association for the Advancement of Science
1984-now	Society for Cardiovascular Pathology
1984-now	International Academy of Pathology, US & Canadian Div.
1984-1991	American Association of Pathologists
1991-2006	American Society for Investigative Pathology
1985-now	American Heart Association

1985-1991	American Heart Association/NYC Affiliate
1991-now	American Heart Association/CA Affiliate
1997-1999	Basic Science Medical Educators
1999-2005	International Association of Medical Science Educators

**Service to Professional Publications:**

1989-1999	Editorial Review Panel, Human Pathology
1991-2002	Journal of the American College of Cardiology, Circulation, Human Pathology
1991-now	Journal of Cardiovascular Pharmacology (10 papers in last 5 years)
2010-now	Editorial Board, Journal of Cardiovascular Pharmacology

**Invited Presentations:**

International

Cardiostim, 13<sup>th</sup> International Conference, Nice, FR, 2002 (invited talk)  
Congenital Heart Disease Update, London UK, 2007 (invited talk)

National

Cellular Electrophysiology and Mechanisms of Arrhythmias, San Francisco, CA, March, 2009 (invited talks).  
Cellular Electrophysiology and Mechanisms of Arrhythmias, San Francisco, CA, March, 2010 (invited talks).  
Cellular Electrophysiology and Mechanisms of Arrhythmias, Philadelphia, PA, October, 2011 (invited talks).  
Electrophysiology by the Bay, San Francisco, CA, September, 2012 (invited talks).

Regional and Other Invited Presentations

California Society of Pediatric Cardiologists, Scientific Session, Napa, CA, 2000  
Department of Pathology Grand Rounds, UCSF, 2000

**CME Courses Attended:**

Mayo Clinic Valvular Heart Disease: New Strategies, Las Vegas, NV, 2008.  
Hawaii Heart 2012 Case-Based Clinical Decision Making Using Echo and Multimodality Imaging

**Government and Other Professional Service:**

1989-now	Abstract Reviewer, American Heart Association Scientific Sessions
2000	NIH Study Section: NHLBI Review Committee, ad hoc reviewer

## University and Public Service

### University Service

#### Systemwide

None.

#### UCSF Campus-Wide

1997-1998	UCSF A/S Coordinating Committee for Interschool Teaching, Member
1997-2002	UCSF A/S Committee on Courses of Instruction, Member
1994-2000	UCSF Vice Chancellor's Ad Hoc Committees (2) re: Faculty Promotion, Member
1999	UCSF Vice Chancellor's Ad Hoc Committee re: Faculty Misconduct, Member
2000	UCSF Vice Chancellor's Ad Hoc Committee re: Faculty Promotion, Member
2001	UCSF Vice Chancellor's Ad Hoc Committee re: Faculty Promotion, Chair

#### School of Medicine

1994	UCSF S/M CCEP Retreat at Marconi Center, Participant
1992-2002	UCSF S/M Second-year Course Committee, Member
1994-2002	UCSF S/M Second-year Course Screening Committee, Member
1994-2002	UCSF S/M Alpha Omega Alpha Election Committee, Member
1995-1999	UCSF S/M Curriculum Subject Area Committee, Co-Chair: Cardiovascular-Lung-Renal
1996-2002	UCSF S/M Second-year Course Committee, Chair
1996-2002	UCSF S/M Committee on Curriculum & Educational Policy (CCEP), Member ex officio
1996	UCSF S/M CCEP Retreat at Claremont Hotel, Participant
1997	UCSF S/M ICM Retreat at Faculty-Alumni House, Participant
2000-2001	UCSF S/M Essentials, Cardiovascular Design Committee, Member
2001-2002	Design Committee, Life Cycle, Member
2001-now	Co-Director, Organs/Cardiovascular Block
2006, 2008	Co-Director (ad hoc), Cancer (M3) Block

#### Moffitt-Long Hospitals

1992-2009	Fetal Decedent Issues Committee (ad hoc)
2000-now	Fetal Surgery Oversight Committee (1 hr/mo)
2001	Medical Staff's Ad Hoc Committee re: Faculty Practice Complaint, Member
2003-now	Surgical Case and Hospital Mortality Review Committee, Chair (4-5 hr/mo)
2003-now	Clinical Performance Improvement Committee, Member (2 hr/mo)
2010-now	Decedent Affairs Committee

#### Department of Pathology

1991-now	Pediatric Cardiology Pathology Conference (1 hr/wk)
1991-now	Neonatal ICU Morbidity and Mortality (2 hr/mo)
1991-now	Pediatric ICU Morbidity and Mortality (1hr/mo, ad hoc)
1991-now	Perinatal ICU Morbidity and Mortality (1hr/mo, ad hoc)
1991-now	Autopsy Service Conference (1 hr/wk)
1992-now	Autopsy Service Specialty Conference (1.5/yr)
1992-1993	Quality Assurance Committee

1994-now Electrophysiology Scientific Seminars (2/yr)  
 1995-now Echocardiography Teaching Seminars (7/yr)  
 1995, 1998 American Association of Pathology Chairs Annual Meeting, attendee  
 1995 Computer System Selection Committee  
 1998-2001 Resident Evaluation Committee  
 2002-now Cardiac Anatomy Seminars for Cardiology Fellows (1/yr)  
 2003-now Quality Improvement Committee  
 2009-now Cardiac Anatomy and Pathology Teaching Seminars for  
 Pediatric Intensive Care fellows (2/yr)  
 2011-now Cardiac Anatomy and Pathology Teaching Seminars for  
 Neonatology fellows (3/yr)  
 2011-now Cardiac Anatomy and Pathology Teaching Seminars for  
 Pediatric Intensive Care-bound Residents (2/yr)  
**2013-now Cardiac Anatomy and Pathology Teaching Seminars for perinatal  
 fellows (2/yr)**

**Public Service**

1992-now Consultant, ad hoc  
 Office of the Chief Medical Examiner of San Francisco  
 1993-now Consultant, ad hoc  
 Office of the Coroner of Fresno County, CA  
 1992-2003 Consultant, ad hoc  
 Office of the Coroner of San Mateo County, CA  
 Office of the Chief Medical Examiner, State of Maine  
 Office of the Coroner of Santa Cruz County, CA  
 1996-2006 Consultant, ad hoc  
 Kaiser-Permanente Hospitals  
 2005-now Office of the Coroner of Kern County, CA  
 2008-2011 Office of the Coroner of Marin County, CA

**Teaching and Mentoring**

**Formal Scheduled Classes for UCSF Students**

Qtr	Academic Yr	S/M Course No. & Title	Teaching Contribution	Units	Class Size
FWS	1996-02	Path 101, 102, 103	Course Director	4,4,3	140
F	1994-02	Pathology 101	Seminar leader x 4	4	12
F	1997-02	Pathology 101	Lecturer x 9		140
F	1997-02	Pathology 101	Lab leader x 8		25
F	1994-02	Pathology 101	Seminar leader x 6		12
S	1996-02	Pathology 103	Organizer, examiner x 6	3	6
FWS	2000-03	Pathology 198	Course Director		1
SFWS	2000-10	Pathology 150.03	Course Director	6	1-3
F	2001-now	IDS 102A; Organs*	Lecturer x 6	7	150
F	2001-now	IDS 102A; Organs*	Lab leader x 6		25
W	2003-now	IDS 107; Life Cycle	Lecture x 0.5	10	150

W	2003-now	IDS 107; Life Cycle	Lab leader x 1.5		25
W	2006	IDS 103; Nutrition, Met	Lab instructor x 2	10.5	30

\*Course Co-Director

**Teaching Aids:**

- 2001 UCSF S/M Organs (IDS 102)  
13 web-based modules developed for Organs: Cardiovascular
- 2002 UCSF S/M Life Cycle (IDS 107)  
1 web-based module on Aging developed

**Teaching Awards and Nominations:**

- 1999 Nomination: Major Contribution to Teaching Award, Class of 2001
- 2001 Nomination: Major Contribution to Teaching Award, Class of 2001
- 2005 Nomination: Outstanding Lecture Series, Class of 2008
- 2007 Nomination: Outstanding Contribution to an Elective, class of 2010
- 2008 Nomination: 2008 UCSF Kaiser Award for Excellence in Teaching in the Classroom Setting
- 2013 Nomination: 2012-2013 MS1 Essential Core Teaching Award

**Summary of Teaching and Mentoring Hours:**

- Past 2011-2012 Formal class or course teaching hours: 90  
Informal teaching hours: 225  
Mentoring hours: 0  
Total teaching & mentoring hours = 315
- Present 2012-2013 Formal class or course teaching hours: 100  
Informal teaching hours: 250  
Mentoring hours: 0  
Total teaching & mentoring hours = 350
- Future 2013-2014 Formal class or course teaching hours: 112  
Informal teaching hours: 250  
Mentoring hours: 0  
Total teaching & mentoring hours = 362

**Mentoring**

	<u>Advisee</u>	<u>Principal Advisor</u>	<u>Philip C. Ursell M.D. Role</u>
2006	Yi Ping	Randall Lee M.D. Ph.D.	Qualifying exam examiner
2007	Zhao, Yong, Ph.D.	Deepak Srivastava, M.D.	Advisor for K-99 grant

## Research and Creative Activities

### Research Awards and Grants:

#### Current

August 2010—National Institutes of Health (NHLBI), PI: Zian Tseng, M.D.  
1 R01 HL102090-01A1

Title: Comprehensive Autopsy Characterization of Sudden Cardiac Death

Project Period: 8/15/10–8/14/15

Annual Direct Cost: \$392,240

Brief Description: Philip C. Ursell, M.D. is a co-investigator. Using comprehensive autopsy evaluation of all consecutive incident sudden cardiac deaths (SCDs) and a random sample of accidental trauma controls over a 3-year period, the contemporary rates of SCD will be determined and arrhythmic sudden death, as well as its risk factors in a diverse community. Dr. Ursell reviews selected heart specimens and all cardiac histopathology slides.

#### Pending

None.

#### Past

At Columbia University:

American Heart Association/NYC Affiliate, Investigator 1986-1989

NHLBI HL30557 Pathology Core, Investigator 1983-1989

" " " , Core Head 1989-1991

NHLBI HL31393, Investigator 1989-1991

NHLBI HL28958 Pathology Core, Investigator 1989-1991

NHLBI HL96043, Investigator 1990-1991

Glaxo grant to Michael Rosen, MD, Consultant 1989-1991

At UCSF:

American Heart Association/N. California Affiliate  
Grant-in-Aid to L. Epstein, M.D., Consultant 1993-1994

P01 HL 25847, J.I.E.Hoffman M.D., P.I. 1/1/94-12/31/98

NIH/NHLBI

Myocardial Ischemia

Role: Consultant

The major goal of this project was to correlate immunohistochemical localization of nerves in canine hearts with ischemic damage.

RO1 HL50303, Michael Dae M.D., P.I. 3/1/96-2/29/00

NIH/NHLBI

Radionuclide imaging using I-125 MIBG in newborn hearts

Role: Investigator

The major goal of this project was to compare regional morphology of immunohistochemical localization of nerves, as well as gap junctions, in developing dog hearts with radionuclide images of cardiac innervation.

HL51184, L. Messina, M.D., P.I.

4/1/97-3/31/00

NIH/NHLBI

Gene Transfer to skeletal muscle fibers and endothelium

Role: Investigator

The major goal of this project was to develop an effective technique of somatic gene therapy base upon direct gene transfer to skeletal muscle capillary endothelium and muscle fibers in a rat model.

RO1 HL64961, Michael Dae M.D., P.I.

6/1/00-5/31/04

NIH/NHLBI

Nerve and repolarization imaging in sudden cardiac death

Role: Investigator

The major goal of this project was to correlate immunohistochemical localization of nerves with radionuclide images of sympathetic innervation in hearts from a colony of German shepherd dogs with inherited sudden cardiac death.

## Peer-Reviewed Publications

1. Ursell PC, Albala A, Fenoglio JJ Jr. Diagnosis of acute rheumatic carditis by endomyocardial biopsy. *Human Pathology* 1982; 13: 677-679.
2. Ursell PC, Albala A, Fenoglio JJ Jr. Malignant neurogenic tumor of the heart. *Human Pathology* 1982; 13: 640-645.
3. Ursell PC, Wigger HJ. Asplenia syndrome in conjoined twins: A case report. *Teratology* 1983; 27: 301-304.
4. Klomp GF, Hashiguchi H, Ursell PC, Takeda Y, Taguchi T, Dobelle WH. Macroporous hydrogel membranes for a hybrid artificial pancreas. II. Biocompatibility. *Journal of Biomedical Materials Research* 1983; 17: 865-871.
5. Hashiguchi H, Taguchi T, Takeda Y, Ursell PC, Klomp GF, Dobelle WH. Whole organ incubation as a first step in the isolation of pancreatic islets from large animals. *Artificial Organs* 1983; 7: 250-253.
6. Fenoglio JJ Jr, Ursell PC, Kellog C, Drusin R, Weiss M. Diagnosis and classification of myocarditis by endomyocardial biopsy. *New England Journal of Medicine* 1983; 308: 12-18.
7. Marcella JJ, Ursell PC, Goldberger M, Lovejoy W, Fenoglio JJ Jr, Weiss MB. Kawasaki syndrome in an adult: Endomyocardial histology and ventricular function during acute and recovery phases of illness. *Journal of the American College of Cardiology* 1983; 2: 374-378.
8. Ursell PC, Habib A, Babchick O, Rottolo R, Despommier D, Fenoglio JJ Jr. Myocarditis caused by trichinella spiralis. *Archives of Pathology and Laboratory Medicine* 1984; 108: 4-6.
9. Ursell PC, Habib A, Sharma P, Mesa-Tejada R, Lefkowitch JH, Fenoglio JJ Jr. Hepatitis B virus and myocarditis. *Human Pathology* 1984; 15: 481-484.
10. Ursell PC, Neill CA, Anderson RH, Ho SY, Becker AE. Endocardial fibroelastosis and hypoplasia of the left ventricle in neonates without significant aortic stenosis. *British Heart Journal* 1984; 51: 492-497.
11. Ursell PC, Gardner PI, Albala A, Fenoglio JJ Jr, Wit AL. Structural and electrophysiological changes in the epicardial border zone of canine myocardial infarcts during infarct healing. *Circulation Research* 1985; 56: 436-451.
12. Gardner PI, Ursell PC, Fenoglio JJ Jr, Wit AL. Electrophysiologic and anatomical basis for fractionated electrograms recorded from chronically ischemic and infarcted regions of the heart. *Circulation* 1985; 72: 596-611.
13. Ursell PC, Byrne JM, Strobino BA. Significance of cardiac defects in the developing fetus: A study of spontaneous abortuses. *Circulation* 1985; 72: 1232-1236.

14. Ratner SJ, Fenoglio JJ Jr, Ursell PC. Utility of endomyocardial biopsy in the diagnosis of cardiac sarcoidosis. *Chest* 1986; 90: 528-533.
15. Kasznica J, Ursell PC, Blanc WA, Gersony WM. Abnormalities of the coronary circulation in pulmonary atresia and intact ventricular septum. *American Heart Journal* 1987; 114: 1215-1220.
16. Baxi L, Bierman F, Ursell PC. Evolution of complete heart block in a fetus and its perinatal management. *American Journal of Perinatology* 1987; 4: 348-351.
17. Dillon SM, Alessie MA, Ursell PC, Wit AL. Influences of anisotropic tissue structure on reentrant circuits in the epicardial border zone of subacute canine infarcts. *Circulation Research* 1988; 63: 182-206.
18. Ursell PC, Griffiths SG, Bowman FO. Traumatic rupture of extra-cardiac valved conduit: unusual late complication producing outflow tract obstruction. *Annals of Thoracic Surgery* 1988; 46: 351-352.
19. Theise ND, Ursell PC. Pulmonary hypertension and Gaucher's disease: logical association or mere coincidence? *American Journal of Pediatric Hematology/Oncology* 1990; 12: 74-76.
20. Ursell PC, Ren CL, Danilo P Jr. Autonomic neural tissue in the developing dog heart: I. Adrenergic innervation. *Anatomical Record* 1990; 226: 71-80.
21. Malfatto G, Steinberg S, Rosen T, Sun L, Ursell PC, Daniel S, Danilo P, Rosen M. Sympathetic neuromodulation of cardiac impulse initiation and repolarization in the newborn rat. *Circulation Research* 1990; 66: 427-437.
22. Thoele DG, Ursell PC, Ho SY, Smith A, Bowman FO, Gersony WM, Anderson RH. Atrial morphology in tricuspid atresia. *Journal of Thoracic and Cardiovascular Surgery* 1991; 102: 606-610.
23. Ursell PC, Byrne J, Fears TR, Strobino BA, Gersony WM. Growth of the great vessels in the normal human fetus and in the fetus with cardiac defects. *Circulation* 1991; 84: 2028-2033.
24. Ursell PC, Ren CL, Danilo P Jr. Anatomic distribution of autonomic neural tissue in the developing dog heart: II. Nonadrenergic noncholinergic innervation by calcitonin gene-related peptide-immunoreactive tissue. *Anatomical Record* 1991; 230: 531-538.
25. Ursell PC, Ren CL, Albala A, Danilo P Jr. Nonadrenergic noncholinergic innervation: anatomic distribution of calcitonin gene-related peptide-immunoreactive tissue in the dog heart. *Circulation Research* 1991; 68: 131-140.
26. Racker DK, Ursell PC, Hoffman BF. Anatomy of the tricuspid annulus: the circumferential myofibers as the structural basis of atrial flutter in a canine model. *Circulation* 1991; 84: 841-851.

27. Sun LS, Ursell PC, Robinson RB. Chronic exposure to neuropeptide Y determines cardiac alpha-1 adrenergic responsiveness. *American Journal of Physiology* 1991; 261(Heart Circ. Physiol. 30): H969-H973.
28. Matsushima AY, Park J, Szulc M, Poon E, Bierman FZ, Cooper RS, Ursell PC. Anomalous atrioventricular valve arcade. *American Heart Journal* 1991; 121: 1824-1826.
29. Wang PJ, Ursell PC, Sosa-Suarez G, Okishige K, Friedman PL. Permanent AV block or modification of AV nodal function by selective AV nodal artery ethanol infusion. *Pacing and Clinical Electrophysiology* 1992; 15: 779-789.
30. Natuzzi ES, Ursell PC, Harrison MH, Buscher C, Riemer RK. Nitric oxide synthase activity in the pregnant uterus decreases at parturition. *Biochem Biophys Res Comm* 1993; 194: 1-8.
31. Ursell PC, Mayes M. Majority of nitric oxide synthase in the pig heart is vascular and not neural. *Cardiovasc Res* 1993; 27: 1920-1924.
32. Bealer JF, Natuzzi ES, Buscher C, Ursell PC, Flake AW, Adzick NS, Harrison MH. Nitric oxide synthase is deficient in the aganglionic colon of patients with Hirschsprung's disease. *Pediatrics* 1994; 93: 647-651.
33. Engler MB, Engler MM, Ursell PC. Vasorelaxant properties of the omega-3 polyunsaturated fatty acids in aortas from spontaneously hypertensive and normotensive rats. *J Cardiovasc Risk* 1994; 1: 75-80.
34. Kalman JM, Lee RJ, Fisher WG, Chin MC, Ursell PC, Stillson CA, Lesh MD, Scheinman MM. Radiofrequency catheter modification of sinus node function guided by intracardiac echocardiography. *Circulation* 1995; 92: 3070-3081.
35. Ursell PC, Mayes M. Anatomic distribution of nitric oxide synthase in the heart. *Int J Cardiol* 1995; 50: 217-223.
36. Damm CJ, Bigger Jr JT, Ursell PC, Steinberg JS, Smith R, Lennon PF, Cook JR. Computer-assisted mapping of infarcted and viable regions of gross cardiac sections following experimental myocardial infarction. *Computers and Biomedical Research* 1995; 28: 221-238.
37. Li Y, Huang T-T, Carlson EJ, Melov S, Ursell PC, Olson JL, Noble LJ, Yoshimura MP, Berger C, Chan PH, Wallace DC, Epstein CJ. Dilated cardiomyopathy and neonatal lethality in mutant mice lacking manganese superoxide dismutase. *Nature Genetics* 1995; 11: 376-381.
38. Bernstein HS, Ursell PC, Brook MM, Hanley FC, Silverman NH, Bristow JD. Fulminant development of pulmonary arteriovenous fistulas in an infant after total cavopulmonary shunt. *Pediatric Cardiology* 1996; 17: 46-50.

39. Olgin J, Ursell P, Kao AK, Lesh M. Pathological findings following slow pathway ablation for AV nodal reentrant tachycardia. *J Cardiovasc Electrophysiol* 1996; 7: 625-631.
40. Ursell PC, Mayes M. Endothelial isoform of nitric oxide synthase in rat heart increases during development. *The Anatomical Record* 1996; 246: 465-472.
41. Phoon CK, Villegas MD, Ursell PC, Silverman NH. Left atrial isomerism detected in fetal life. *Amer J Cardiol* 1996; 77: 1083-1088.
42. Dae MW, Lee RJ, Ursell PC, Chin MC, Stillson CA, Moise NS. Heterogeneous sympathetic innervation in German shepherd dogs with inherited ventricular arrhythmia and sudden cardiac death. *Circulation* 1997; 96: 1337-1342.
43. Bernstein HS, Ursell PC, Teitel DF. Primary involvement of the mitral and aortic valves in Takayasu's arteritis. *Cardiology in the Young* 1997; 7: 228-231.
44. Piot CA, Padmanaban D, Ursell PC, Sievers RE, Wolfe CL. Ischemic preconditioning decreases apoptosis in rat hearts *in vivo*. *Circulation* 1997; 96: 1598-1604.
45. Olgin JE, Kalman J, Chin M, Stillson C, Ursell PC, Lesh M. Electrophysiologic effects of long atrial lesions placed under intracardiac ultrasound guidance. *Circulation* 1997; 96: 2715-2721.
46. Lee RJ, Sievers R, Gallinghouse J, Ursell PC. Development of a model of AV block in the rat. *J Appl Physiol* 1998; 85: 758-763.
47. Shinbane JS, Lesh MD, Stevenson WG, Klitzner TS, Natterson PD, Wiener I, Ursell PC, Saxon LA. The anatomic and electrophysiologic relationship between the coronary sinus and mitral annulus: implications for ablation of left-sided accessory pathways. *Amer Heart J* 1998; 135: 93-98.
48. Lu L, Xu Y, Greyson CR, Ursell PC, Schwartz GG. Non-elastic deformation of myocardium in low-flow ischemia and reperfusion: ultrastructure-function relations. *J Mol Cell Cardiol* 1999; 31: 1157-1169.
49. Kolker SE, Ferrell LD, Bollen AW, Ursell PC. Disseminated intravascular meconium in a newborn with meconium peritonitis. *Human Pathology* 1999; 30: 592-594.
50. Engler MB, Engler MM, Mayes M, Ursell PC. Effects of the omega-3 fatty acids on vascular tone in hypercholesterolaemia and balloon arterial injury. *Asia Pacific Heart Journal* 1999; 8: 27-35.
51. Vexler Z, Berrios M, Ursell PC, Sola A, Ferriero DM, Gregory GA. Toxicity of fructose-1,6-biphosphate in developing normoxic rats. *Pharmacology and Toxicology* 1999; 84: 115-121.
52. Roithinger FX, Steiner PR, Goseki Y, Liese KS, Scholtz DB, Sippensgroenewegen A, Ursell PC, Lesh MD. Low-power radiofrequency application and intracardiac

- echocardiography for creation of continuous left atrial linear lesions. *J Cardiovasc Electrophysiol* 1999; 10: 680-691.
53. Arheden H, Saeed M, Gao D-W, Bremerich J, Ursell PC, Wyttenbach R, Dae M, Higgins CB, Wendland MF. Non-invasive estimation of non-viable cell fraction in acute myocardial injury using echoplanar magnetic resonance imaging. *Radiology* 2000; 215: 520-528.
  54. Lee RJ, Springer ML, Blanco-Bose WE, Shaw R, Ursell PC, Blau HM. VEGF gene delivery to myocardium: Deleterious effects of unregulated expression. *Circulation* 2000;102: 898-901.
  55. Lu L, Gunja-Smith Z, Woessner JF, Ursell PC, Nissen T, Galardy RE, Xu Y, Zhu P, Schwartz GG. Matrix metalloproteinases and collagen ultrastructure in moderate myocardial ischemia and reperfusion. *Amer J Physiol Heart and Circ Physiol* 2000; 279: H601-H609.
  56. Ussia GP, Momenah TS, Ursell P, Brook MM, Moore P, De Luca F, Silverman NH. Evaluation of the morphology of the oval fossa for placement of devices. *Cardiology in the Young* 2000; 10: 502-509.
  57. Nissen T, Silverman NH, Ursell PC. Aortic vasculopathy with aneurysm: Rare cause of fetal hydrops. *Cardiology in the Young* 2000; 10: 153-155.
  58. Villar AJ, Carlson EJ, Gillespie AM, Ursell PC, Epstein CJ. Cardiomyopathy in mice with paternal uniparental disomy for chromosome 12. *Genesis* 2001; 30: 274-279.
  59. Coombs BD, Rapp JH, Ursell PC, Reilly LM, Saloner D. Structure of plaque at the carotid bifurcation: high resolution MRI with histologic correlation. *Stroke* 2001; 32: 2516-21.
  60. Huang T-T, Carlson EJ, Kozy HM, Mantha S, Goodman SI, Ursell PC, Epstein CJ. Genetic modification of prenatal lethality and dilated cardiomyopathy in Mn superoxide dismutase mutant mice. *Free Radical Biology & Medicine* 2001; 31: 1101-1110.
  61. Paek R, Chang DS, Brevetti LS, Rollins MD, Brady S, Ursell PC, Hunt TK, Sarkar R, Messina LM. Correlation of a simple direct measurement of muscle pO<sub>2</sub> to a clinical ischemia index and histology in a rat model of chronic severe hindlimb ischemia. *Journal of Vascular Surgery* 2002; 36: 172-9.
  62. Bonifacio SL, Kitterman JA, Ursell PC. Pseudomonas pneumonia in infants: an autopsy study. *Human Pathology* 2003; 34: 929-938.
  63. Dae MW, Gao DW, Ursell PC, Stillson CA, Sessler DI. Safety and efficacy of endovascular cooling and rewarming for induction and reversal of hypothermia in human-sized pigs. *Stroke* 2003; 34: 734-8.

64. Marrouche NF, Natale A, Wazni OM, Cheng J, Yang Y, Pollack H, Verma A, Ursell P, Scheinman MM. Left septa atrial flutter: electrophysiology, anatomy and results of ablation. *Circ* 2004; 109: 2440-7.
65. Yang Y, Wahba GM, Liu T, Mangat I, Keung EC, Ursell PC, Scheinman MM. Site specificity of transverse crista terminalis conduction in patients with atrial flutter. *Pacing and Clinical Electrophysiology* 2005; 28: 34-43.
66. Geva E, Ginzinger DG, Moore II DH, Ursell PC, Jaffe RB. A murine model for studying placental angiogenesis: *In utero* angiopoietin-2 gene delivery remodels placental blood vessel phenotype. *Molecular and Human Reproduction* 2005; 11: 253-260.
67. Villar AJ, de Blank P, Gillespie AM, Kozy HM, Ursell PC, Epstein CJ. Effects of genetic background on cardiovascular anomalies in the Ts16 mouse. *Developmental Dynamics* 2005; 232: 131-139.
68. Friedberg MK, Ursell PC, Silverman NH. Isomerism of the left atrial appendage associated with ventricular noncompaction. *Amer J Cardiol* 2005; 96: 985-990.
69. Cheng J, Yang Y, Ursell PC, Lee RJ, Dorostkar PC, Boahene KA, Scheinman MM. Protected circumferential conduction in the posterior atrioventricular vestibule of the left atrium: Electrophysiologic and anatomic correlates. *PACE* 2005; 28: 692-701.
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**Patents Issued or Pending:**

None.

**Other Creative Activities:**

None.

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## Research Program

Dr. Ursell's primary interest is in developmental heart disease, and he currently has several translational projects in this field. An expert in cardiovascular anatomy and pathology, Dr. Ursell also serves as consultant in cardiovascular anatomy, histology, immunohistochemical and ultrastructure for many of principal investigators at UCSF. Thus, many of Dr. Ursell's studies are done in collaboration with other cardiovascular scientists who either perform physiological experiments or study disease in human populations. A few examples follow.

Dr. Ursell recently directed a project involving pathologists, a cardiologist, perinatal obstetrician and a statistician regarding the prevalence and significance of anomalous mitral arcade, a rare cardiac deformity associated with mitral regurgitation, among a population of autopsied fetuses with twin-twin transfusion syndrome. The first time that this association has been noted, the published report can be expected to change the paradigm of clinical management of this serious obstetrical condition. The association also suggests that the deformity is acquired during gestation, not a malformation as previously thought.

In collaboration with Zian Tseng, M.D. from the Arrhythmia Service, Department of Medicine, a large-scale study of sudden cardiac death is under way. This project involves not only epidemiologic and autopsy studies, but also molecular diagnostics to detect gene mutations that can be the basis for channelopathies, thus arrhythmias. The importance of this study is that it is the first prospective study to completely analyze all sudden deaths within a large well-defined urban catchment area (San Francisco, CA). Dr. Ursell will review all of the structure data.

In collaboration with Melvin Scheinman, M.D., Department of Medicine, Dr. Ursell is evaluating new immunohistochemical methods of detecting arrhythmogenic right ventricular cardiomyopathy, a rare condition associated with cardiac arrhythmia and sudden death. This lethal condition has been challenging to diagnose. In 2010 Dr. Ursell participated in a local symposium devoted to discussing various aspects of ARVC.

In collaboration with Joseph Shieh, M.D. Ph.D., and Olivier Danhaive, M.D. from the Department of Pediatrics, Dr. Ursell is directing a study of the molecular basis and pathogenesis for alveolar capillary dysplasia, a rare lung malformation characterized by intractable pulmonary hypertension in newborn infants. From autopsy lung tissue, immunohistochemical data regarding proteins critical to lung development will be correlated with genetic data from the same patients in a genotype-phenotype correlative analysis of the underlying lung abnormalities.