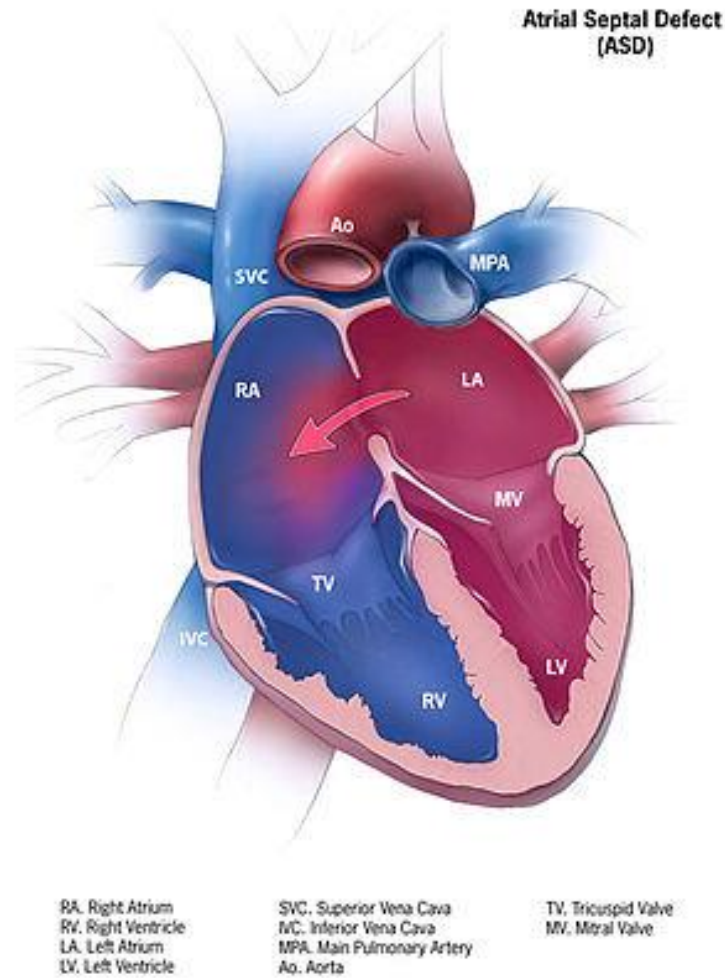


ASD (Atrial septal defect) PDA (patent ductus arteriosus)

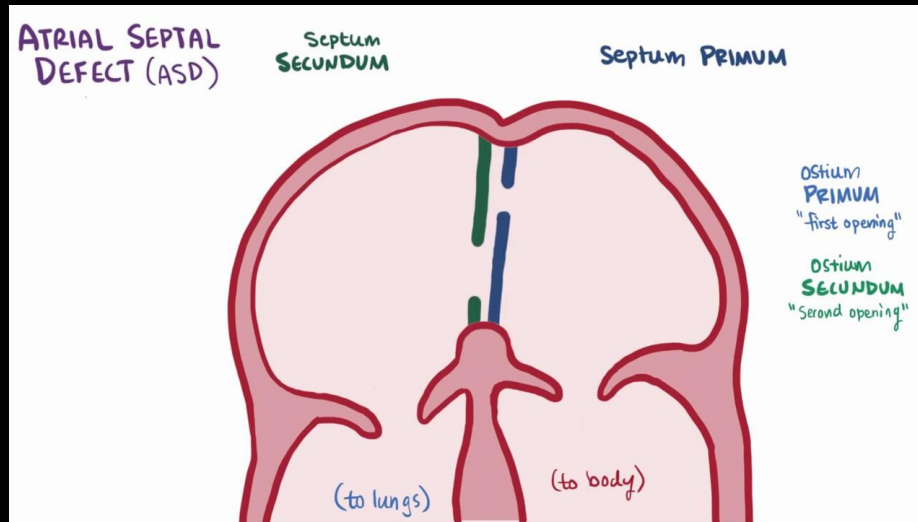
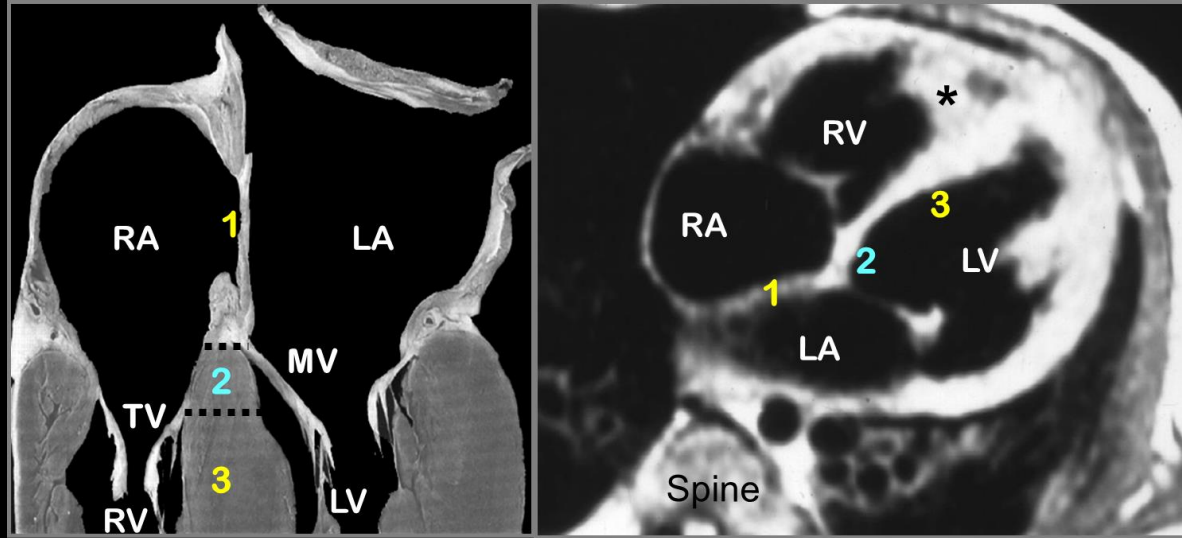
Seoul National University Children's Hospital

조 성 규

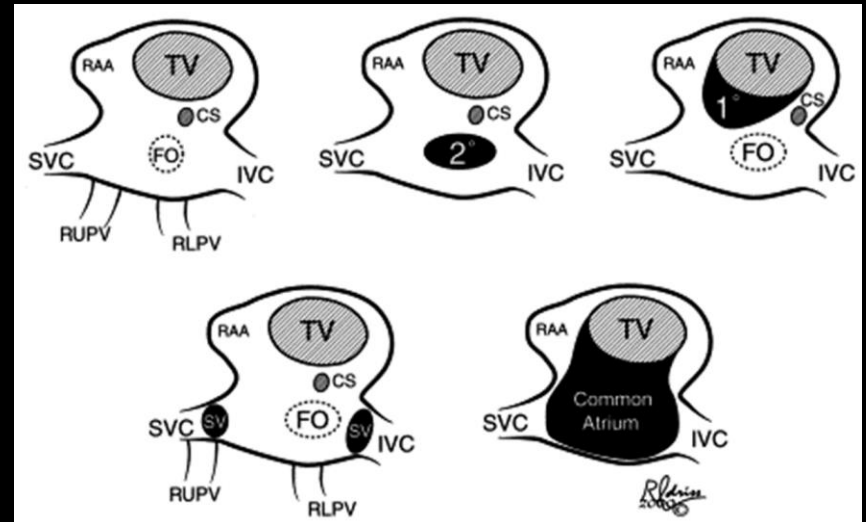
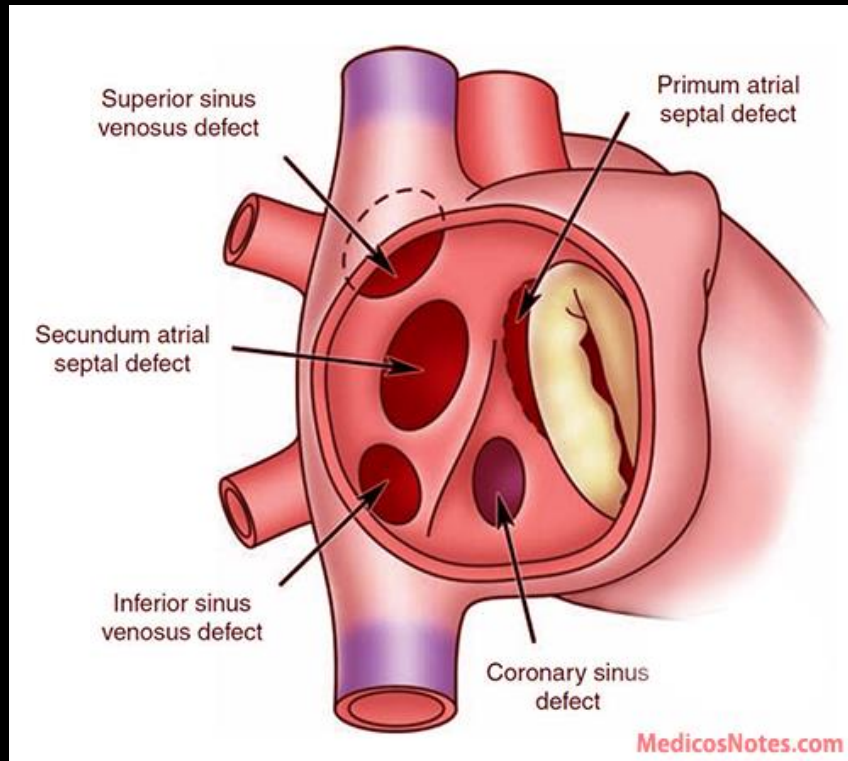
ASD



Septums



Anatomical type



Natural history

- Spontaneous closure, <4mm
- Atrial arrhythmia (atrial fibrillation, flutter)
- Paradoxical emboli
- Pulmonary vascular obstructive disease
- Progressive right heart failure
- Mean age of death : 36 years

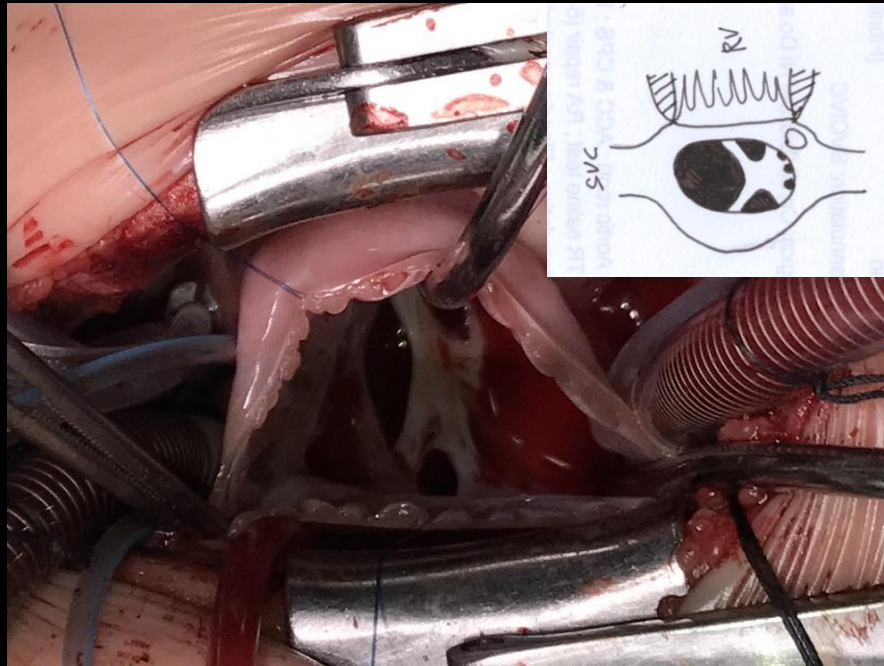
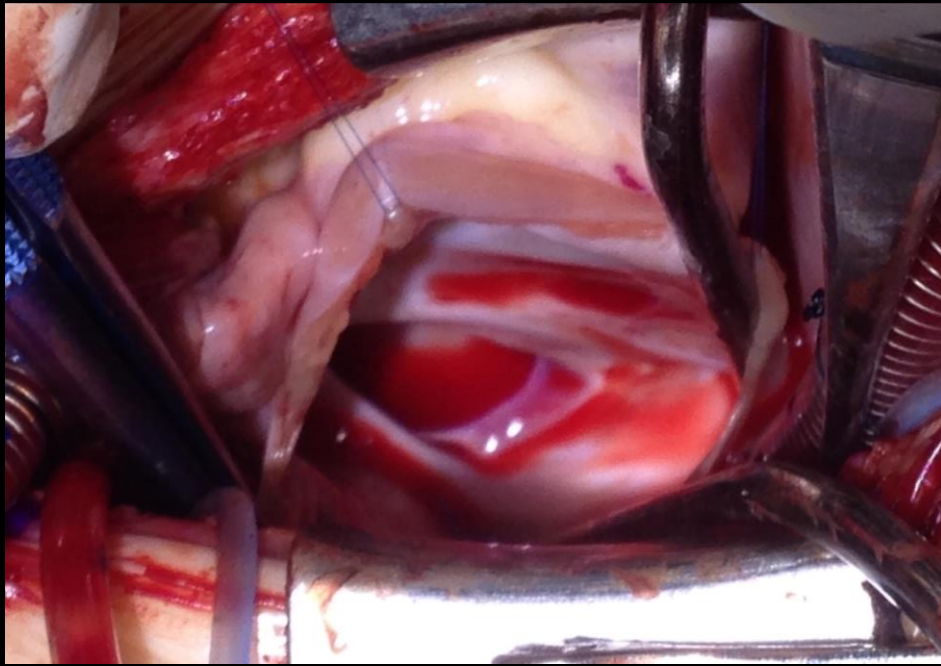
Operative indication

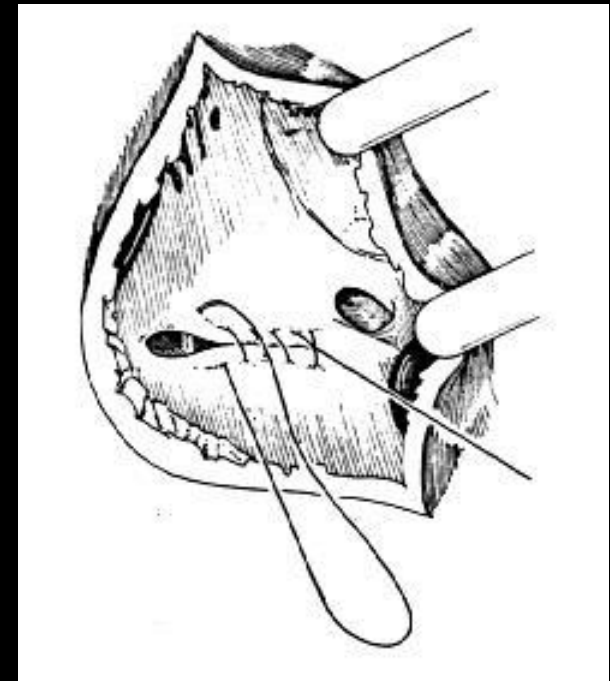
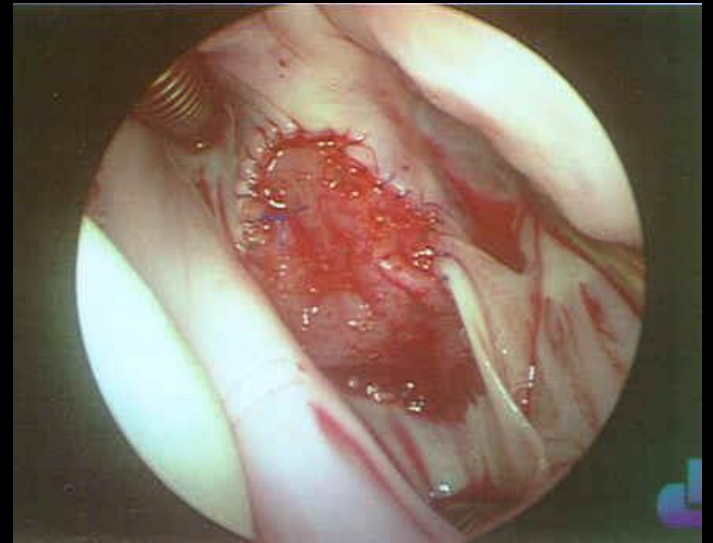
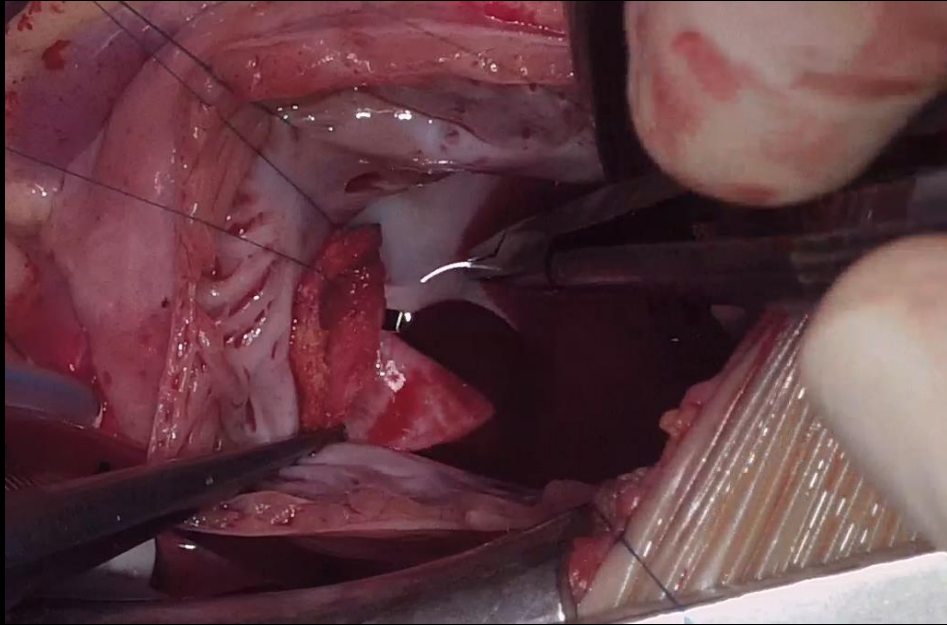
- Asympromatic
 - $Q_p/Q_s > 1.5$
 - Large size
 - Operation time : 2-6 year old
- Symptomatic, progressive HF
 - During infancy

ASD repair in old age

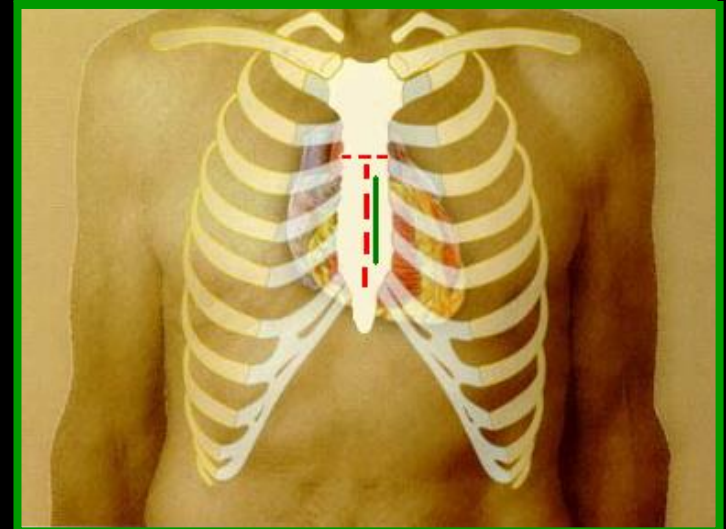
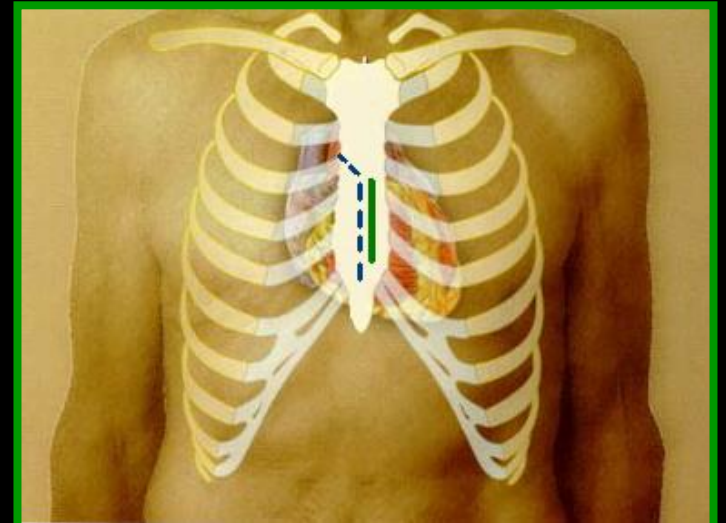
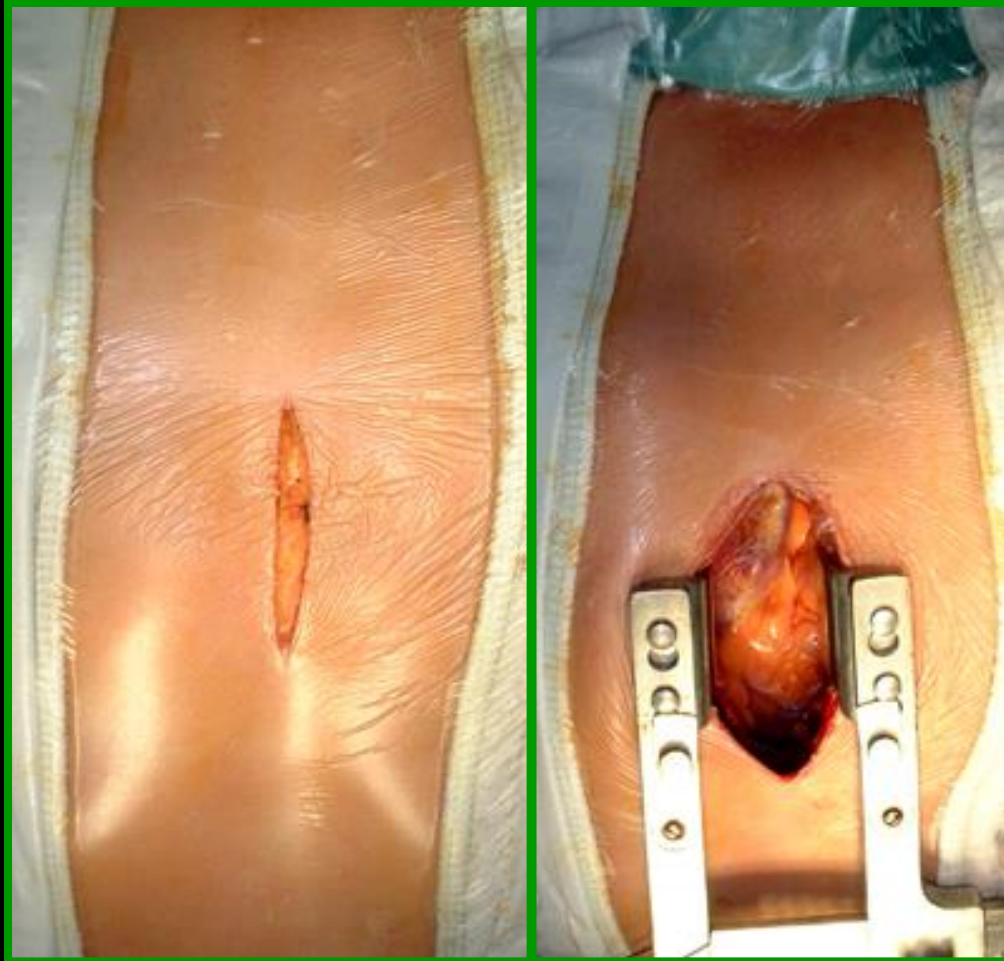
- $Q_p/Q_s > 1.7$
- Pulmonary artery pressure < 70 mmHg
- Pulmonary vascular resistance < 15 units/m²

Operation





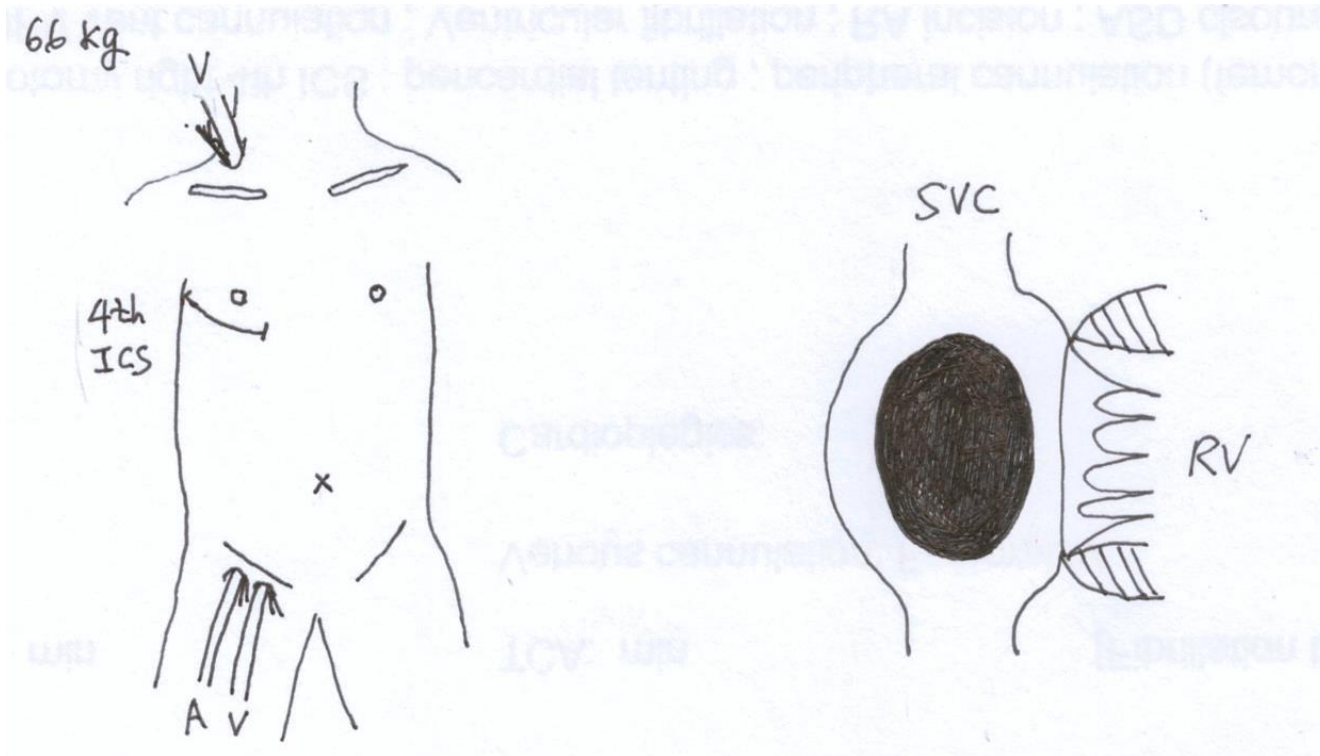
Minimal skin incision for ASD closure



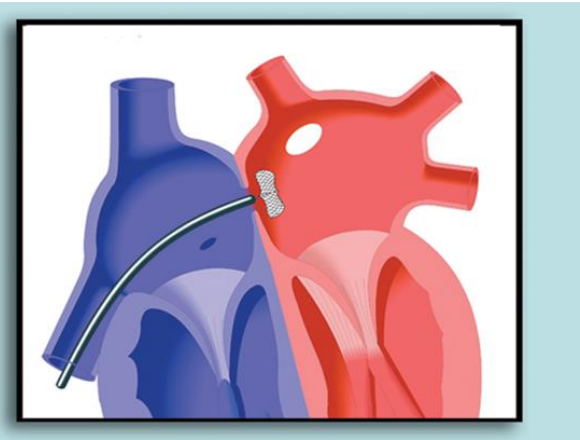
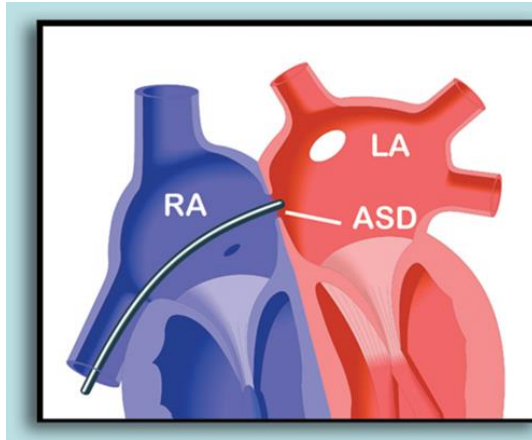
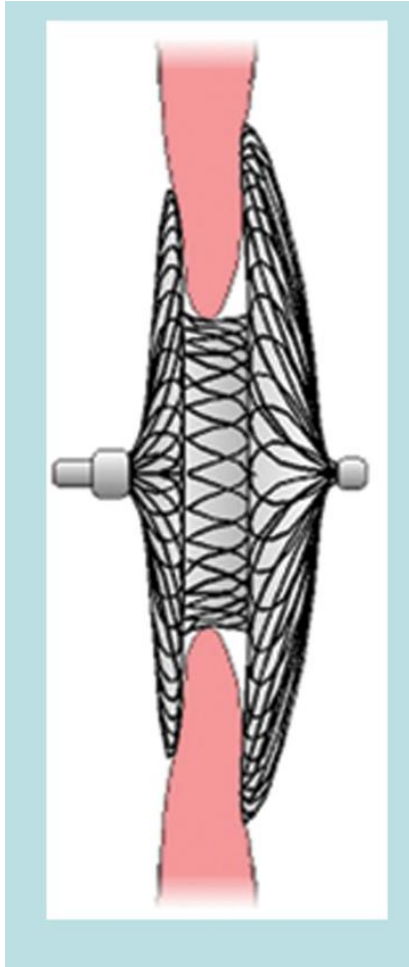
Minimal skin incision for ASD closure



Minimally invasive cardiac surgery

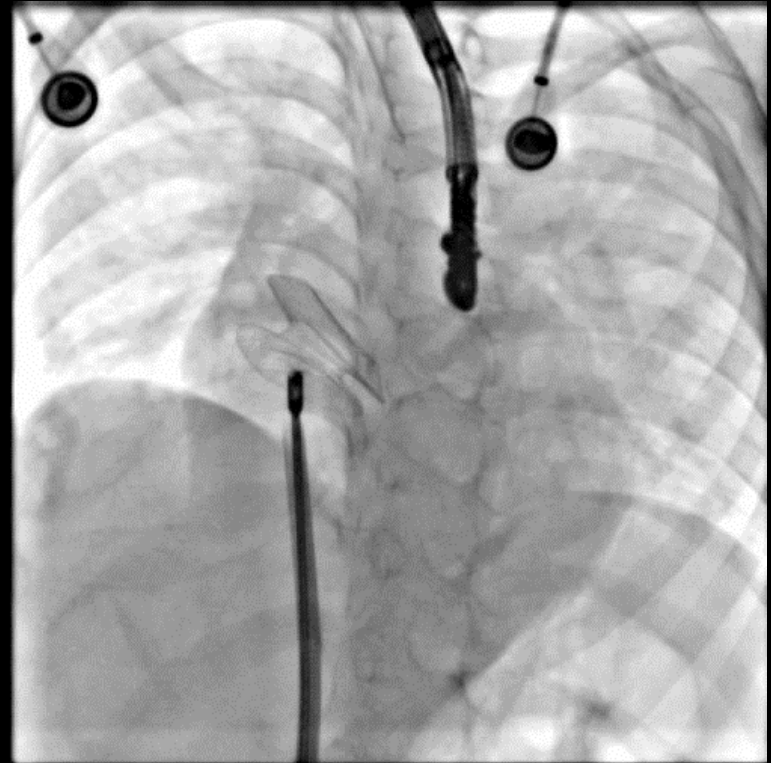
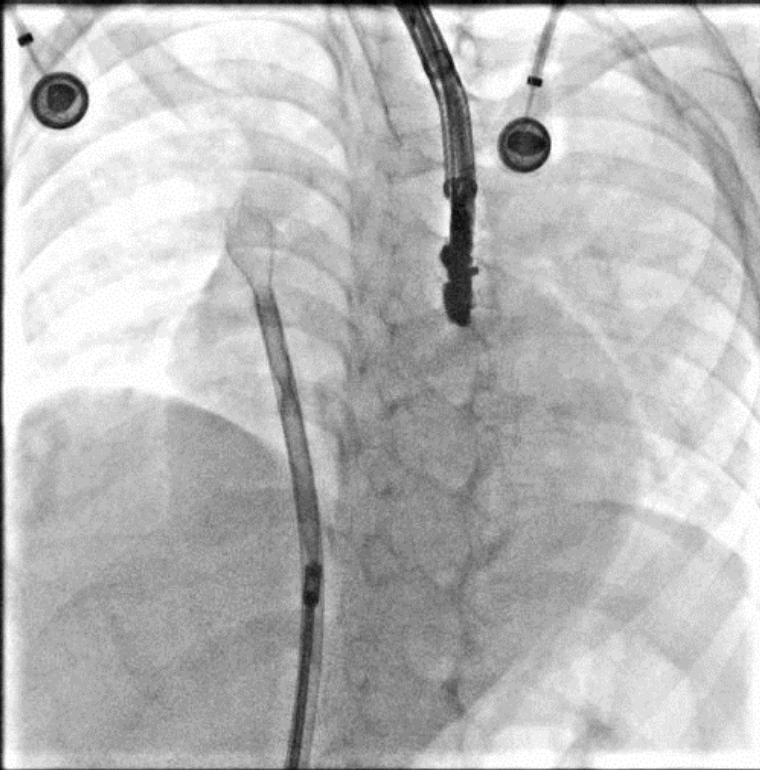


ASD device closure



Amplatzer PFO occluder
Illustration courtesy AGA Medical Group

ASD device closure



6yo/F, 21.4kg
Device trial & fail d/t refractory atrial fibrillation
– Surgical repair

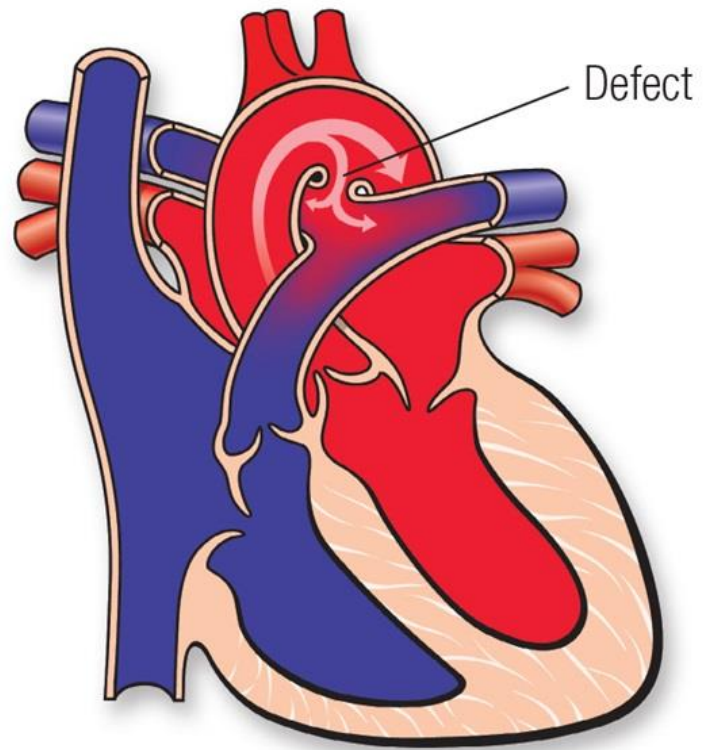
Postoperative problems

- Patch dehiscence
- Superior vena caval stenosis
- Right pulmonary vein stenosis
- Sinus node dysfunction
- MV insufficiency
- AV block

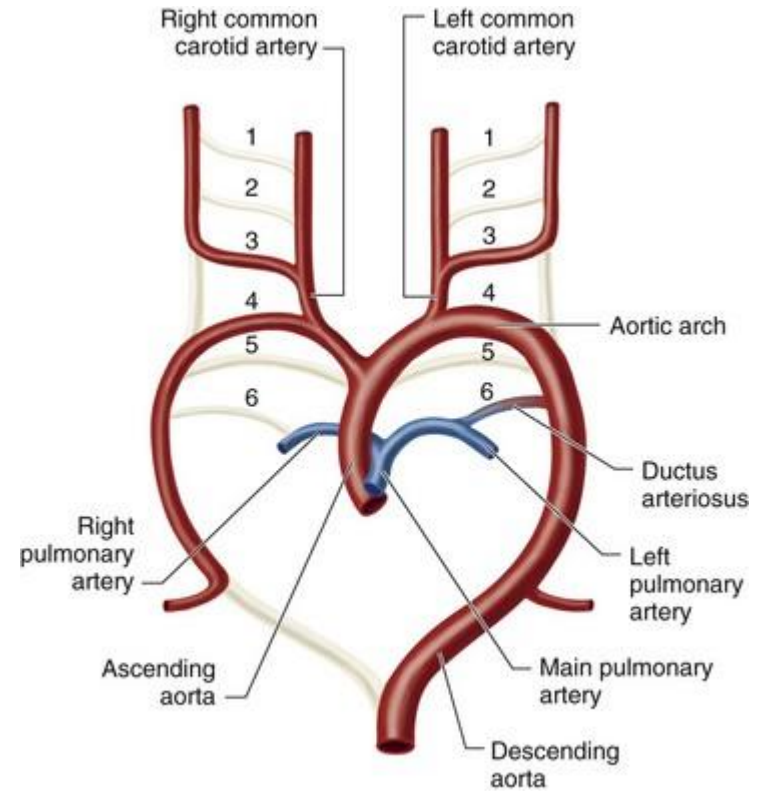
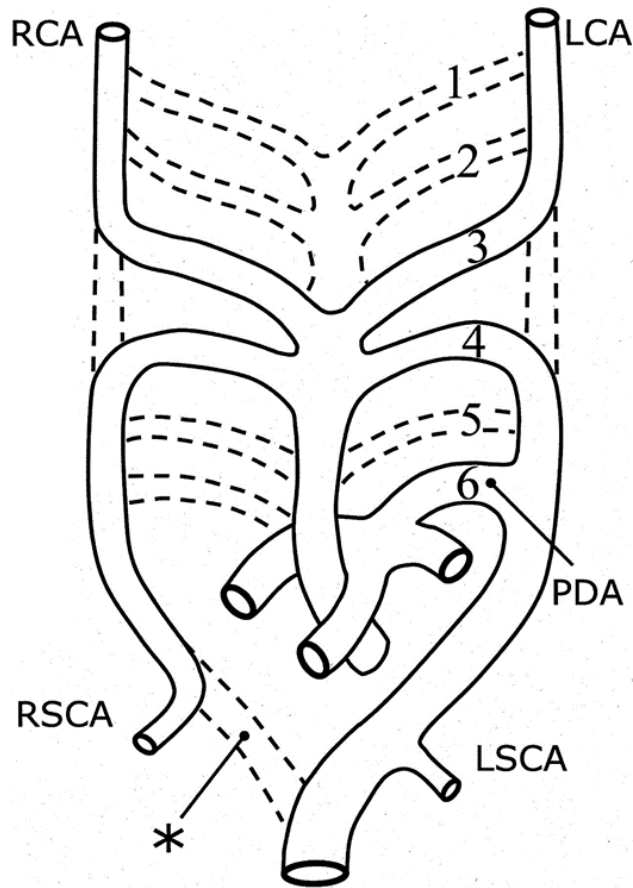
- Atrial arrhythmia
- Stroke, other embolic phenomena
- Cardiac failure

PDA

Patent Ductus Arteriosus



PDA



ANNALS
OF
SURGERY

A MONTHLY REVIEW OF SURGICAL SCIENCE AND PRACTICE

EDITED BY
LEWIS STEPHEN PILCHER, M.D., LL.D.,
OF NEW YORK.

WITH THE COLLABORATION OF
J. WILLIAM WHITE, M.D., LL.D. | SIR WILLIAM MACEWEN, M.D., LL.D.
OF PHILADELPHIA, | OF GLASGOW,
Professor of Surgery in the University | Professor of Surgery in the University
of Pennsylvania. | of Glasgow.

W. WATSON CHEYNE, C.B., F.R.S.,
OF LONDON,
Professor of Surgery in King's College.

VOLUME XLVI
JULY—DECEMBER, 1907

PHILADELPHIA
J. B. LIPPINCOTT COMPANY
1907

SURGERY OF THE VASCULAR SYSTEM.*

I. LIGATION OF THE DUCTUS ARTERIOSUS. By JOHN C. MUNRO, M.D., of Boston. II. ARTERIOTOMY FOR THROMBOSIS AND EMBOLISM. By FRANCIS T. STEWART, M.D., of Philadelphia. III. TECHNIQUE OF BLOOD-VESSEL SUTURE. By J. EDWIN SWEET, M.D., of Philadelphia. IV. ENDO-ANEURISMORRHAPHY. By CHARLES H. FRAZIER, M.D., of Philadelphia. V. ENDO-ANEURISMORRHAPHY. By JOHN H. GIBBON, M.D., of Philadelphia.

I. LIGATION OF THE DUCTUS ARTERIOSUS.

BY JOHN C. MUNRO, M.D.,
OF BOSTON, MASS.

THAT I may be allowed to bring this suggestion for a new operation before your Society, I ask on the basis that it has not been hastily conceived. On the contrary, long ago I demonstrated its technical possibility on the cadaver of newborn children, and felt that it was justifiable on the living. At various times I have tried to inspire the pediatric specialist with my views, but in vain. Now, in view of the recent advances in cardiac surgery, for much of which we are indebted to the surgeons of this city, I will venture to place my ideas before you, asking that you do not dismiss them hastily.

A

B

John C. Munro 1907, 1st proposal for surgical treatment

THE AMERICAN HEART JOURNAL



C. A. H. ASSN.

A JOURNAL FOR THE STUDY OF THE CIRCULATION

PUBLISHED MONTHLY
UNDER THE EDITORIAL DIRECTION OF
THE AMERICAN HEART ASSOCIATION

FRED M. SMITH Editor-in-Chief

Associate Editors
HUGH McCULLOCH
IRVING S. WRIGHT
HORACE M. KOENIG

EDITORIAL BOARD

EDGAR V. ALLEN
CLAUDE S. BECK
HARRY GOLDBLATT
GEORGE HERMANN
WILLIAM J. KERR
ROBERT L. LEVY
H. M. MARVIN

JONATHAN C. MEAKINS
ROY W. SCOTT
ISAAC STARR
J. MURRAY STEELE
PAUL D. WHITE
FRANK N. WILSON
CHARLES C. WOLFEARTH

PUBLISHED BY THE C. V. MOSBY COMPANY, 1225 PINE BLVD., ST. LOUIS, U. S. A.
Copyright 1938 by The C. V. Mosby Company

CONTENTS ON INSIDE COVER

Department of Clinical Reports

AN ATTEMPT TO OBLITERATE THE PATENT DUCTUS ARTERIOSUS IN A PATIENT WITH SUBACUTE BACTERIAL ENDARTERITIS*

ASHTON GRAYBIEL, M.D., JOHN W. STRIEDER, M.D., AND
NORMAN H. BOYER, M.D.
BOSTON, MASS.

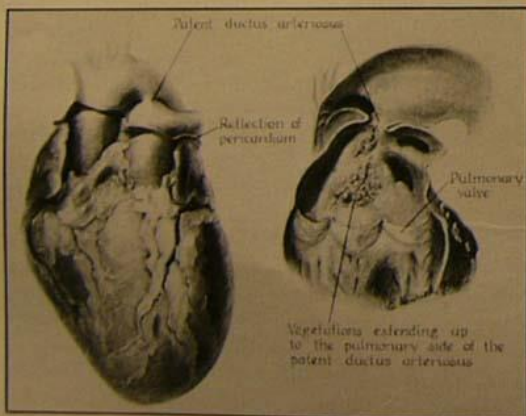
OF ALL the complications of heart disease none is of more interest than *Streptococcus viridans* infection, and this equally whether one considers the nature of the invading organism, the structural changes in the heart necessary for its gaining a foothold, or the hopelessness of treatment. Although this complication is most commonly seen in relation to chronic rheumatic heart disease, its relative incidence is far greater in certain types of congenital heart disease. Thus in Abbott's series¹ of 92 cases of simple patency of the ductus arteriosus, death was caused by bacterial endarteritis or endocarditis in no less than 21. Recovery from this complication is extremely rare² as there is no specific medical treatment. For this reason heroic measures are often justified. The following report is an account of what we believe is the first attempt on record to obliterate the patent ductus arteriosus in a patient with *Streptococcus viridans* infection.

1938

Graybiel, Strieder, Boyer

1st unsuccessful PDA ligation

22-year-old woman with SBE





- **Robert E. Gross**

1938

1st PDA ligation

7-year-old child

THE JOURNAL

OF THE
American Medical Association

Subscription, \$6.00
PUBLISHED WEEKLY
Single Copies, 25 Cents
Copyright, 1939, by American Medical Association
535 North Dearborn Street, Chicago, Ill.
VOLUME 112, No. 8
FEBRUARY 25, 1939

CONTENTS AND SUBJECT INDEX

Prostatectomy or Resection? Edwin Davis, M.D., Omaha.....661	Blood Subgroups A and A ₂ Israel Davidsohn, M.D., Chicago.....713 <i>(Discussed by Drs. Rosenthal, Howell and Davidson.)</i>	COUNCIL ON PHARMACY AND CHEMISTRY 733
Transurethral Prostatectomy. R. M. Nesbit, M.D., Ann Arbor, Mich. 687	Sulfanilamide in Nonspecific Infections of the Urinary Tract. A. L. Clark, M.D., Oklahoma City.....719	COUNCIL ON FOODS 733
Case of Drs. Davis and Nesbit discussed by Drs. Bardeen, Tolson, Olson, Hager, Alcock, Volk and Davis.....	The Use of Sulfanilamide in 1,625 Cases of Gonorrhoea in the Male. Barney Silver, M.D., and Manning Elliott, M.D., Los Angeles.....721	EDITORIALS
Gastrointestinal Tuberculosis. Leo L. Hardt, M.D., Morris Weisman, M.D., J. S. Coulter, M.D., and K. J. Hennrichsen, M.D., Chicago.....691 <i>(Discussed by Drs. McKeown, Green, Martin and Schuster.)</i>	Papers of Dr. Clark and Drs. Silver and Elliott discussed by Drs. Bell, Dillon, Jones, Drake, Clark and Helmschlag.....	The Advisory Council on Education, Licensure and Hospitals.....734
The Erythrocyte in Sickle Cell Anemia. L. W. Diegs, M.D., and Jamaica Bibb, A.B., Memphis.....695 <i>(Discussed by Drs. Osmond and Diaz.)</i>	Surgical Ligation of a Patent Ductus Arteriosus. R. E. Gross, M.D., and J. P. Hubbard, M.D., Boston.....729	The Refugee Physician.....735
Gastrointestinal Symptoms in Disease of the Brain. Harry Gauss, M.D., Denver.....701 <i>(Discussed by Drs. Kinsman and Altkovner.)</i>	CLINICAL NOTES	Investigations on Antibodies.....735
Ephritis of Capillum. J. F. Eward, M.D., Washington.....705 <i>(Discussed by Drs. Fisher and Fierman.)</i>	Sulfanilamide Therapy in Actinomycosis. Edwin M. Miller, M.D., and E. H. Fell, M.D., Chicago.....731	CURRENT COMMENT
Gastrointestinal Tract. Wendell G. Scott, M.D., Bracey Kenamore, M.D., and J. W. Larimore, M.D., St. Louis.....708 <i>(Discussed by Dr. Hinton.)</i>	Ineffectiveness of Sulfanilamide in Rabies from Vaccinated Dogs. B. F. Hart, M.D., and Elwyn Evans, M.D., Winter Park, Fla.....731	No Definition of Naturopathy.....736
	COUNCIL ON PHYSICAL THERAPY 732	ORGANIZATION SECTION
		Immigration of Alien Physicians.....737
		Public Health, Haven Emerson, M.D., New York.....737
		Congress on Industrial Health.....739
		Medical Legislation.....746
		Medical Economic Abstracts.....752
		(Subject Index on next page)
		THE STUDENT SECTION
		The University of Michigan Medical Student. Warren R. Austin, Ann Arbor, Mich.....779
		Comments and Reviews.....782
		Correspondence.....787
		Medical College News.....788

A. M. A. SESSION - St. Louis - MAY 15-19, 1939

BARSKY'S New PLASTIC SURGERY

"This book cannot be too strongly recommended." This is what The Journal of Clinical Medicine and Surgery says in its review of Dr. Barsky's new book. And, truly, General Practitioners, Surgeons and Specialists alike are enthusiastically endorsing this new contribution to medical literature.

Here is a book on plastic surgery—both functional and aesthetic—that covers the entire body from head to extremities. It deals not alone with the more intricate procedures and operations but also covers in equally full detail those methods required to treat the conditions common to everyday practice. For example, Dr. Barsky has included full discussions of the treatment of wounds, burns, frost-bite, scars, and keloids. He tells how to close skin defects without grafting, how to correct such conditions as saddle-nose, deformities of the nasal tip, deformities resulting from disease, etc. There are chapters on the Orbit, the Ear, Lips, Cheeks and Jaws, Fractures of the Facial Bones, the Neck and Trunk, the Orthopedic Aspects of Plastic Surgery, Extremities and Prostheses.

In each discussion Dr. Barsky gets immediately to the point, summing up briefly essential principles and factors, then going on to describe specifically the method best suited to the purpose, how it should be executed and under what circumstances it is indicated or contraindicated.

In order to further clarify the text and emphasize important points, Dr. Barsky has included 770 original line illustrations on 432 figures making his book really an atlas of plastic surgical technic. Dr. Lewis Jones Barasky, M.D., D.D.S., American Religion in Charge of Department of Reconstructive Surgery, Beth Israel Hospital, New York City. (Send for list right.) 411 South Dearborn. Cloth, \$17.50.

Other SAUNDERS BOOKS Described on Pages 3, 4, 5

SURGICAL LIGATION OF A PATENT DUCTUS ARTERIOSUS

REPORT OF FIRST SUCCESSFUL CASE

ROBERT E. GROSS, M.D.
AND
JOHN P. HUBBARD, M.D.
BOSTON

The continued patency of a ductus arteriosus for more than the first few years of life has long been known to be a potential source of danger to a patient for two reasons: First, the additional work of the left ventricle in maintaining the peripheral blood pressure in the presence of a large arteriovenous communication may lead eventually to cardiac decompensation of severe degree. Second, the presence of a patent ductus arteriosus makes the possessor peculiarly subject to fatal bacterial endarteritis. While it is true that some persons have been known to live to old age with a patent ductus of Botalli, statistics have shown that the majority die relatively young because of complications arising from this congenital abnormality. Dr. Maude Abbott¹ presented a series of ninety-two cases which came to autopsy in which it was shown that the patient had had a patent ductus arteriosus without any other cardiovascular abnormality. Of these patients, approximately one fourth died of bacterial endarteritis of the pulmonary artery and an additional one half died of slow or rapid cardiac decompensation. The average age of death of patients in this series was 24 years.

Natural course

- Large PDA
 - Congestive heart failure
 - Pulmonary vascular obstructive disease
- Small and moderate sized PDA
 - Infective endocarditis
 - Aneurysmal dilatation
 - Calcification
 - Rupture

Operative indication

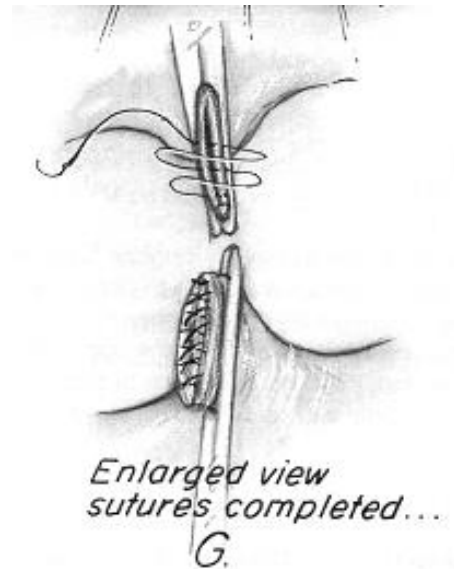
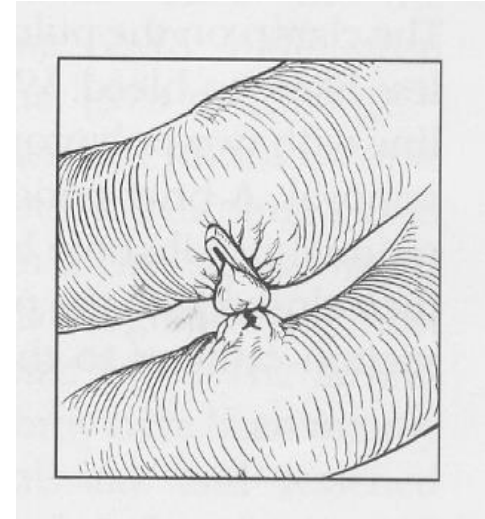
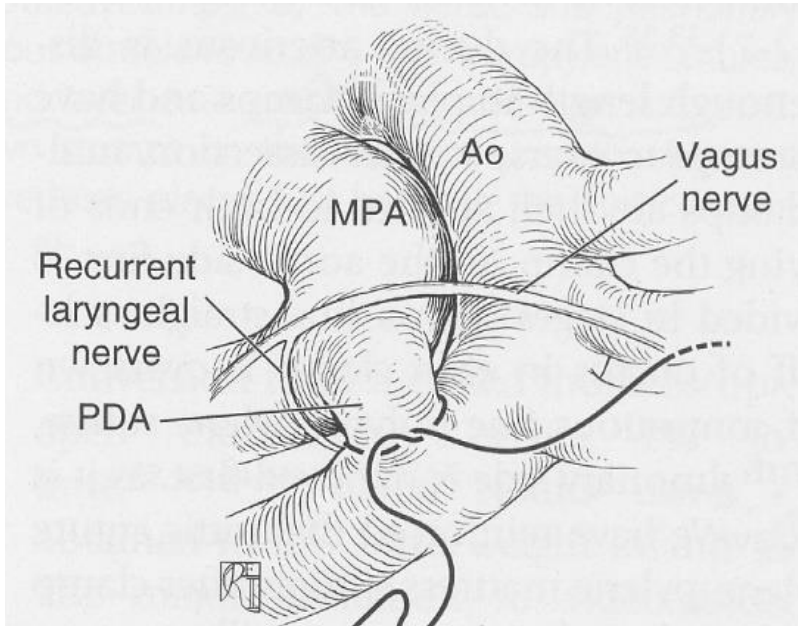
- Premature
 - Infants who are **not candidates for indomethacin** or who **fail indomethacin therapy with uncontrolled congestive failure or deterioration in pulmonary function**
- Older infants of children
 - Moderate or large sized PDA
 - Small (1-2mm) sized PDA : controversial

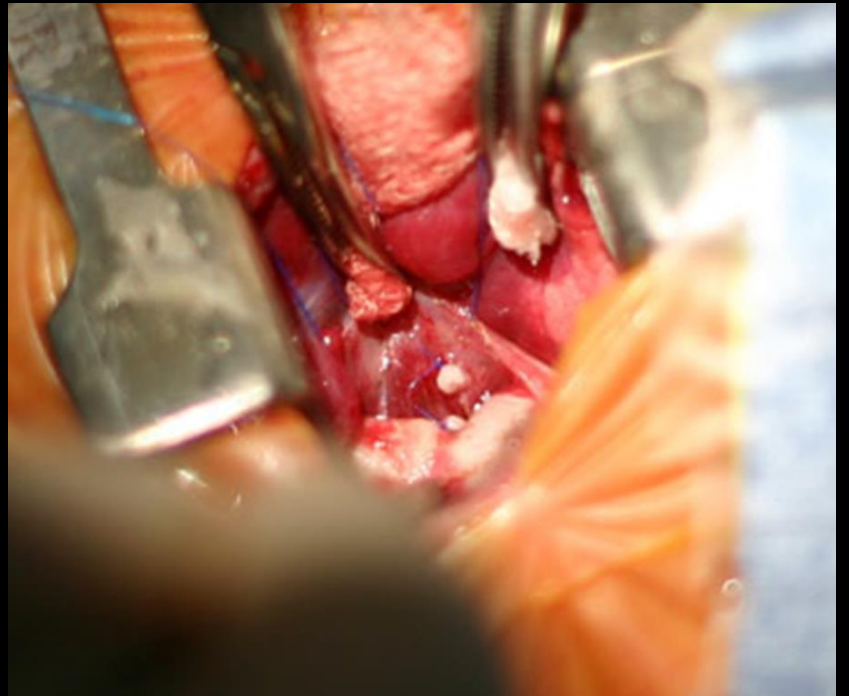
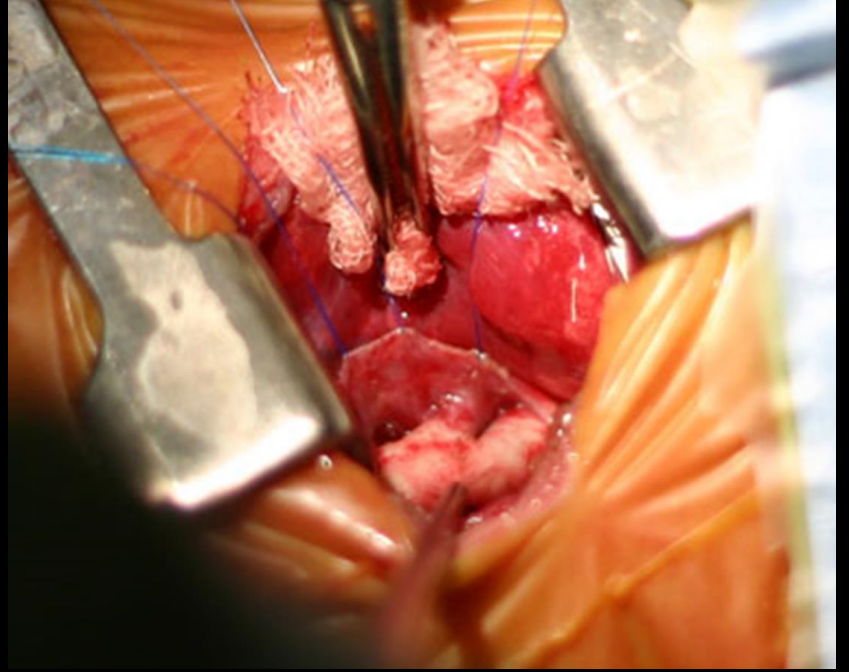
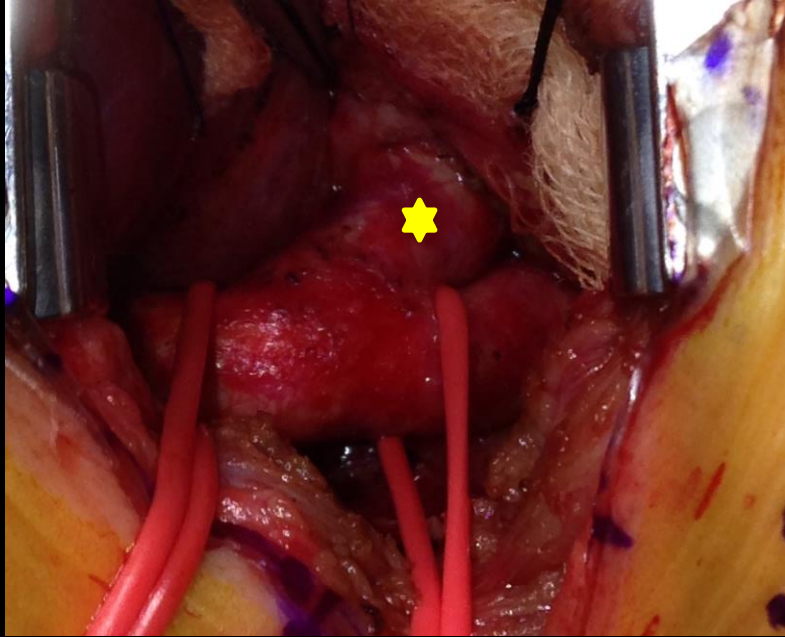
23 wk, 460 gm, PDA



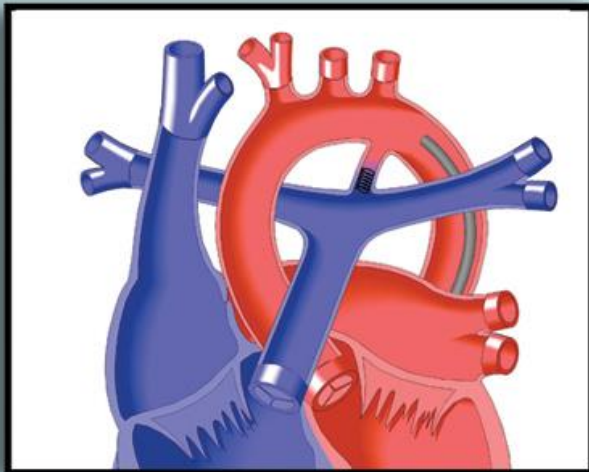
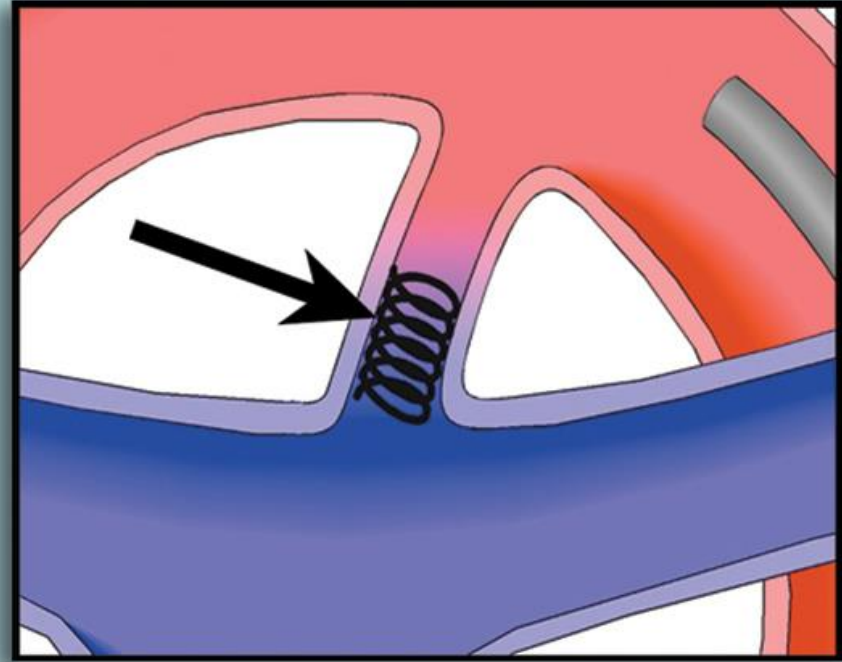
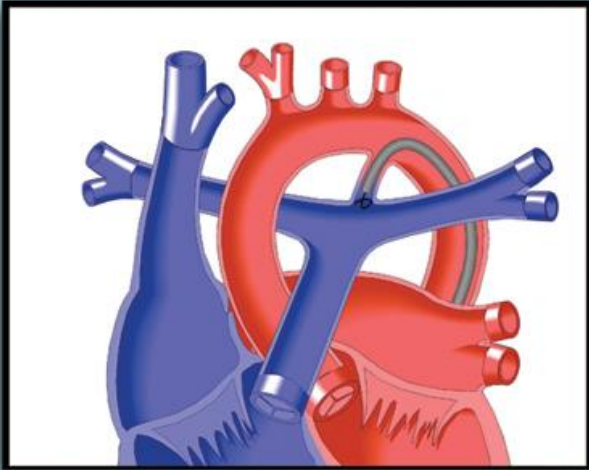


PDA operation

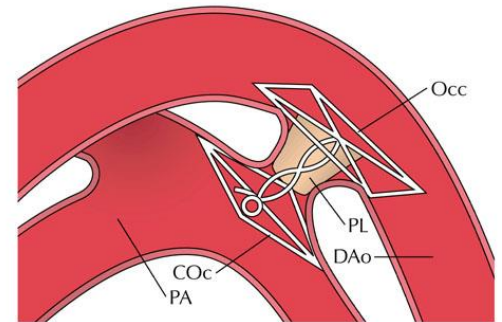




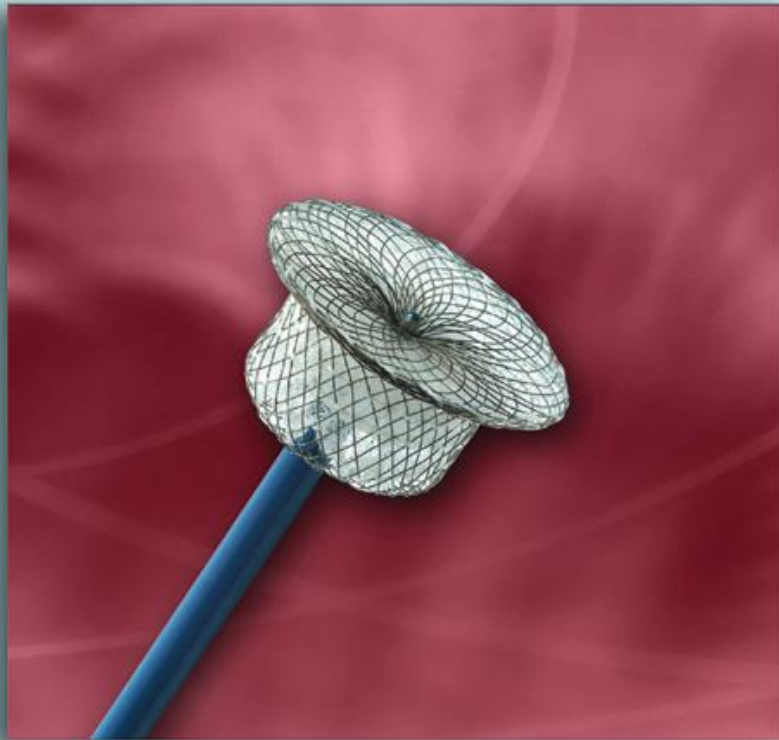
PDA device closure



The Duct Occluder



PDA device closure



Postoperative problems

- Left vocal cord paralysis
- Phrenic nerve injury
- Horner's syndrome
- Chylothorax
- Pneumothorax
- Inadvertent ligation of left pulmonary artery
- Recanalization

GA 26+6wks, 980gm at birth

생후 21 days : PDA ligation

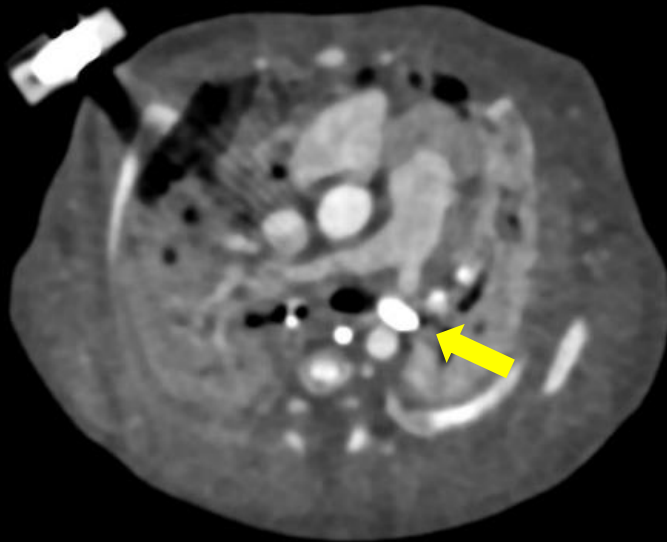
Postop echo : remained PDA, LPA no visible

생후 25 days : exphothoracotomy, bleeding, cardiac arrest, CPR

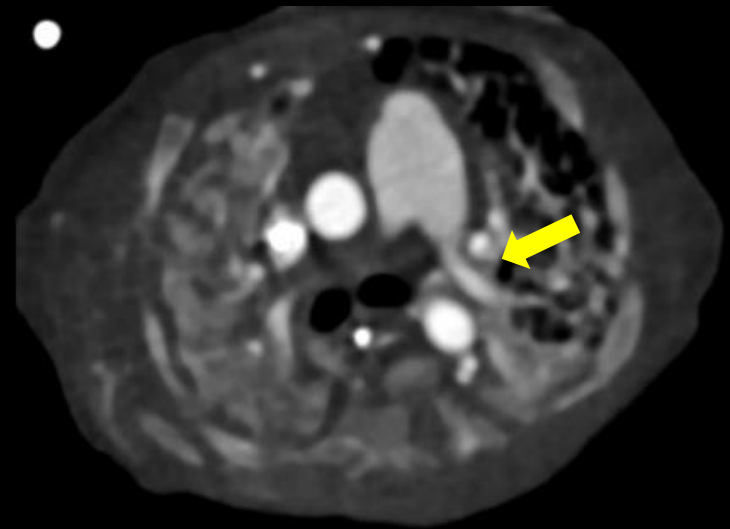
Transfer to SNUCH

1month, 29 days, 2kg

Operation: LPA angioplasty, ASD patch closure



Preop.



Postop.

Thank you !

csk1022@hanmail.net