



Redo pulmonary valve replacement via left anterior mini-thoracotomy

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● BACKGROUND

Redo pulmonary valve replacement (PVR) in patients with corrected right ventricular outflow tract lesions

- ✓ Median sternotomy has been the standard approach.
- ✓ **Left anterior mini-thoracotomy (LAT)** is promising as an alternative approach.

ADVANTAGES

common MICS advantages
reduced number of resternotomy during lifetime
minimized area of adhesion dissection

We previously reported the usefulness of redo PVR via LAT as a alternative to resternotomy.

Tatewaki H, Ushijima T, Shiose A. Ann Thorac Surg 2020;110:e537-e539.

● Patients selection

- ✓ LAT is the **first-line** approach for redo PVR since 2018.
- ✓ LAT approach was not indicated
 - when standard MICS was anatomically contraindicated.
 - when an intracardiac shunt was present.
 - when a combined procedure was required.



● Conclusions

- ✓ Minimally invasive redo PVR can be an **effective** treatment option.
- ✓ Avoiding resternotomy possibly leads to **reduced** operative mortality.

*This surgery can be an important part of lifetime management
in adult patients with corrected congenital heart disease.*

● Results

Now, we have experienced 13 cases.

#	Age Sex	Pulmonary valve	Prior sternotomy	Primary Diagnosis	Prosthesis	Thoracotomy Rib division	Skin incision	CPB time	Cardiac Arrest
1	38, M	PR	1 sternotomy	Critical PS	Inspiris #23	3ics, yes	7.8 cm	88	no
2	44, F	PSR	1 sternotomy	TOF	Inspiris #23	2ics, no	6.5 cm	143	no
3	32, F	PR	1 sternotomy	TOF	Inspiris #23	3ics, no	7.5 cm	116	no
4	29, F	PR	2 sternotomies	IAA complex s/p Rastelli+DKS	Inspiris #19	1ics, yes	6.5 cm	137	no
5	22, M	PR	2 sternotomies	PA/IVS	Inspiris #25	2ics, yes	5.0 cm	124	no
6	44, F	PR	1 sternotomy	TOF	Inspiris #25	2ics, yes	6.0 cm	85	no
7	22, M	PSR	1 sternotomy	TOF	Regent #21	2ics, yes	5.0 cm	73	no
8	37, M	PR	1 sternotomy	DORV	Inspiris #25	3ics, yes	5.0 cm	198	no
9	21, F	PSR	1 sternotomy	Truncus	Inspiris #25	2ics, yes	5.0 cm	185	no
10	40, F	PR	2 sternotomies	PA/IVS	Epic #25	2ics, no	6.5 cm	167	no
11	27, M	PR	1 sternotomy	Critical PS	Epic #25	2ics, yes	4.5 cm	64	no

- There were **No** early or late mortality.
- There were **No** re-exploration due to postoperative bleeding or MICS-related adverse events.
- One patient required reoperation through a median sternotomy one month after surgery for additional correction of a branch pulmonary artery.
- Echocardiography showed **normal** valve function during the follow-up period of up to 70 months.

