More data are needed regarding costs of operation versus transcatheter closure of ASD before comparisons can be made. The length of stay for patients undergoing transcatheter closure is reported to be 2 to 3 days.[1–5,9] In our study, the most recent average length of stay was 6.1 days, but since this study has ended, the length of stay for ASD operation is <4 days. Recent reports on transcatheter closure devices do not discuss costs, including those of the device itself, which cannot be ignored in today's medical system. As the number of transcatheter closure attempts increases, careful comparison of transcatheter ASD closure complication rates, lengths of stay, costs, risks for bacterial endocarditis, and long-term outcome with the same factors related to operation will be required.

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Doppler Forward Flow Profiles of St. Jude Medical Prosthetic Valves in Pediatric Patients

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Several recent studies have reported the Doppler flow characteristics of large caliber St. Jude Medical (SJM) prosthetic valves placed in adult patients.[1–4] Little information is available concerning the flow characteristics of small caliber SJM prosthetic valves placed in pediatric patients.[5] This study examines the Doppler echocardiographic forward flow profiles of SJM prosthetic valves placed in infants, children, and adolescents both in the immediate postoperative period and at intermediate-term follow-up.

From May 1985 to July 1991, 35 patients underwent placement of 39 SJM prosthetic valves. Four patients with 6 SJM prosthetic valves died in the immediate postoperative period before echocardiographic evaluation of their prosthetic valve(s) and therefore were excluded. The remaining 31 patients (19 males and 12 females), who had 33 prosthetic valves, constituted the study group. Ages at the time of surgery were from 1 month to 20 years (mean 8.8 ± 1.1). Diagnoses were aortic stenosis in 10, atrioventricular septal defect with mitral regurgitation in 5, congenital mitral stenosis in 3, isolated

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TABLE I Doppler Forward Flow Characteristics of St. Jude Medical Prosthetic Valves in the Aortic Position in the Immediate Postoperative Period and at Intermediate-Term Follow-Up

			Immediate Postop. Exam.			Follow-Up Exam.				
Patient	Age (yr)	Valve Size (mm)	Pk V (m/s)	PIPG (mm Hg)	$\bar{x}$ Grad. (mm Hg)	Years	Pk V (m/s)	PIPG (mm Hg)	$\bar{x}$ Grad. (mm Hg)	Comments
1	2.0	19	—	—	—	4.3	2.6	27	12	
2	3.4	21	1.2	6	3	—	—	—	—	
3	4.3	19	1.5	9	4	4.1	2.2	18	10	
4	5.1	21	1.3	6	4	—	—	—	—	
5	5.6	19	2.6	28	15	2.1	3.5	50	29	Replaced with a 21 mm SJM
6	6.9	23	—	—	—	1.1	1.6	10	5	
7	7.8	19	2.7	29	16	—	—	—	—	
8	10.2	21	3.1	39	24	—	—	—	—	
9	12.1	25	2.0	16	7	2.8	2.1	18	11	
10	13.2	25	2.7	28	14	—	—	—	—	
11	13.6	19	—	—	—	4.1	2.3	21	11	
12	14.2	23	2.0	16	8	—	—	—	—	
13	15.0	27	2.0	15	1	4.4	2.0	16	9	
14	16.2	25	1.4	8	4	—	—	—	—	
15	16.3	19	4.0	65	37	1.8	5.0	98	51	Clinical observation
16	17.1	20	2.2	18	9	—	—	—	—	
17	19.8	27	—	—	—	3.0	2.5	25	15	
18	20.1	25	3.0	35	21	—	—	—	—	

Age = age at surgery; Exam. = examination; PIPG = peak instantaneous pressure gradient; Pk V = peak velocity; Postop. = postoperative; SJM = St. Jude Medical prosthesis; $\bar{x}$ Grad. = mean pressure gradient; Years = years since surgery.

TABLE II Doppler Forward Flow Characteristics of St. Jude Medical Prosthetic Valves in the Mitral Position in the Immediate Postoperative Period and at Intermediate-Term Follow-Up

			Immediate Postop. Exam.		Follow-Up Exam.		
Patient	Age (yr)	Valve Size (mm)	Days Postop.	$\bar{x}$ Grad. (mm Hg)	Years	$\bar{x}$ Grad. (mm Hg)	Comments
1	0.1	23	—	—	1.1	6	
2	0.5	19	1	1	2.8	3.7	
3	0.6	19	—	—	3.5	19	Replaced with a 23 mm SJM
4	1.5	25	7	6	—	—	
5	1.9	23	7	2	—	—	
6	2.5	21	8	3	—	—	
7	2.6	21	2	6	2.0	6	
8	3.6	21	8	5	—	—	
9	4.1	23	18	4	3.9	4.6	
10	9.0	27	14	5	—	—	
11	10.0	33	6	2	—	—	
12	11.2	25	8	12	—	—	Died 7 mos. postop.
13	13.0	29	3	1	4.0	3	
14	13.8	31	—	—	1.7	6	
15	13.9	25	16	3	3.6	4.3	

Abbreviations as in Table I.

aortic insufficiency in 2, and miscellaneous defects in the remaining 11.

Of the 33 SJM prosthetic valves, 18 were in the aortic position and 15 were in the mitral position. At the time of operation the largest possible prosthetic valve was inserted.

Echocardiographic evaluation was performed in the immediate postoperative period for 26 SJM prosthetic valves, 14 aortic and 12 mitral. The initial study of the aortic and mitral valves was performed 5.3 ± 0.8 and 8.2 ± 1.5 days after surgery, respectively. All patients had normal cardiac output and ventricular function at the time of echocardiographic evaluation. Seventeen valves were evaluated by echocardiography >1 year after surgery (9 aortic and 8 mitral). Mean time to the follow-up echocardiogram was 3.1 ± 0.4 and 2.7 ± 0.5 years for the aortic and mitral valves, respectively. Peak flow velocity across the valve was measured using pulsed, high-pulse repetition frequency, and continuous-wave Doppler techniques. The simplified Bernoulli equation was used to calculate the peak instantaneous pressure gradient across the valve. Mean pressure gradient was calculated as the average of the instantaneous gradients throughout the flow period.

Tables I and II list the forward flow characteristics of the SJM prosthetic valves in the immediate postoperative period and at intermediate-term follow-up. No prosthetic valve had significant valvular or perivalvular regurgitation by pulsed, continuous-wave, or color flow Doppler.

The forward flow characteristics of SJM prosthetic valves have been well-described in adult patients using Doppler echocardiography[1–4]; however, because these valves are rarely used in children, little information exists concerning the Doppler forward flow profiles of these small caliber valves. Because of the lack of large numbers of pediatric patients with prosthetic valves, baseline values for expected velocities and gradients across small caliber prosthetic valves have not been established. This study of pediatric patients provides data on baseline forward flow profiles that should be helpful for the identification of abnormal prosthetic valve function.

Of the prosthetic valves assessed in the immediate postoperative period, 1 aortic (patient 15) and 1 mitral (patient 12) valve had significant gradients. The patient with the significant aortic gradient has had an increase in the Doppler gradients across the valve on serial echocardiograms but remains clinically asymptomatic. The patient with the significant mitral gradient died 7 months postoperatively from a massive cerebrovascular accident.

Of the prosthetic valves assessed at intermediate-term follow-up, 2 aortic valves (patients 5 and 15) and 1 mitral valve (patient 3) had significant gradients. Patient 5 developed endocarditis requiring valve replacement (with a 21 mm SJM prosthetic valve); patient 15 was described above. The prosthetic valve used in patient 3 was subsequently replaced with a 23 mm SJM prosthetic valve. At the time of operation, extensive pannus overgrowth of the annulus was visualized, with thrombus formation impairing the mobility of 1 tilting disc. Thus, while prosthetic valve dysfunction is relatively uncommon in children and adolescents in the immediate postoperative period (8%), significant valve obstruction is a frequent finding (18%) at intermediate-term follow-up.

In summary, this data on baseline and follow-up Doppler flow characteristics of small caliber SJM prosthetic valves should be extremely valuable for identifying valve dysfunction in children. Because of the high risk of developing valve obstruction, these children should be closely monitored with serial Doppler examinations.

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Acronyms of Clinical Trials in Cardiology—1994

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Once a long time ago
When medicine was young
Everything was simpler then
And nothing tripped my tongue.

But now it seems that what I know
Can't be simply said,
I have to sift through brand new words
That crowd into my head.

...Of GISSI and ISIS and TAMI and TIMI
Is this some sort of coup?
I feel as if I'm drowning
In a bowl of alphabet soup!

...Yes, I could go on and on,
Examples are not hard to find
I wonder where this all will end?
This is not what Orwell had in mind!!
Roffi[1]

There will never be an end to the use of acronyms for clinical trials in cardiology. Acronyms are necessary because they simplify, facilitate, and accelerate modern communication. Physicians, especially cardiologists, like to use or invent acronyms.[2,3] But when mentioned for the first time in any communication, they must be explained in order to avoid confusion, frustration, and aggravation.[2–10] For this reason I compiled a table of acronyms of all major cardiologic trials which was published in this journal 2 years ago.[2] At that time the entry contained 244 acronyms. Now this number has nearly quadrupled; there are over 900 including many newly coined or newly formed acronyms of cardiologic trials (Table I). As acronyms continue to expand by leaps and

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Long Term Luminal Renarrowing Following Coronary Angioplasty of Chronic Total Occlusions- A Quantitative Angiographic Analysis of 3,549 Lesions
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The aim of this study was to evaluate the long term restenosis rate following balloon dilatation of coronary occlusions. The study population comprised 2,950 patients (3,549 lesions) prospectively enroled into 4 restenosis trials (MERCATOR, MARCATOR, CARPORT, PARK). The total follow-up rate was 92%. As the tested compounds demonstrated no angiographic or clinical benefit, data from the active and placebo groups were pooled. The study population included 244 occlusive (OS, 6.88%) and 3,305 non occlusive stenoses (NOS, 93.12%). The 6 month angiographic restenosis rate was significantly higher in OS at 44.67% (109/244) compared to 32.65% in NOS (1079/3305 lesions) ($p<0.001$, Relative risk 3.820, CI 2.807-5.200) using the categorical approach (>50% stenoses at follow up). Similarly the relative loss (mean±sd) in OS, 0.172 ± 0.276, $n=244$ was significantly higher than in NOS 0.121 ± 0.203, $n=3305$, $p<0.001$. The higher restenosis rate in the OS group was due to increased re-occlusions in this group, 18.03% (44/244 lesions) compared to 4.72% (156/3305 lesions) for the NOS group, $p<0.001$). When these were excluded the restenosis rate between the two groups was similar using the categorical approach, 32.50 (OS) vs 29.31% (NOS) ($p=0.338$, Relative risk 1.109, CI 0.902-1.364). Furthermore, using the continuous approach the relative loss was significantly lower in the OS group, 0.066 ± 0.172, $n=200$, than in the NOS group, 0.093 ± 0.163, $n=3149$ ($p=0.023$). These results indicate that successfully dilated OS have a higher restenosis rate at 6 months, than NOS. This is chiefly due to a higher rate of reocclusion rather than long term luminal renarrowing suggesting that the higher restenosis rate in recanalised OS may be the result of a population subset with an intrinsic haematological or lesion propensity to acute thrombosis.

FIGURE 1. This abstract, among many others from the 66th Scientific Sessions of the American Heart Association in 1993, which was published in *Circulation* 1993;88(suppl I):I-519, contained 4 acronyms in rapid succession—MERCATOR, MARCATOR, CARPORT, and PARK—without any explanation. Some of us may wonder if we were not reading a used car advertisement.