

Table E1. Preoperative Data

Id	Sex	Age	ER0P	ELP	ELA	ER90P	IR90P	Roots	GH shape by MRI	Surgery
1	Male	0.85	45	140	100	.	.	C5,6	C	Release Only
2	Male	1.2	-20	160	40	.	.	C5,6,7	Pmild	Release Only
3	Female	8	0	150	135	.	.	C5,6	C	Lat Transfer
4	Female	11	-20	150	150	.	.	C5,6	CP	Lat Transfer
5	Female	2.5	-20	150	150	.	.	C5,6	Pmild	Release Only
6	Male	10	-20	140	130	.	.	C5,6	C	Lat Transfer
7	Female	2	0	120	80	.	.	C5,6	CP	Release Only
8	Female	0.8	-20	135	120	.	.	C5,6	Pmild	Release/Transfer
9	Female	8	-60	120	120	.	.	C5,6	Pmild	Lat Transfer
10	Female	12	-60	120	70	.	.	C5,6	Pmod	Lat Transfer
11	Male	6	-45	150	140	.	.	C5,6	CP	Lat Transfer
12	Female	1.3	0	150	150	.	.	C5,6	Pmild	Release/Transfer
13	Female	2	-20	140	70	.	.	C5,6	Pmild	Lat Transfer
14	Female	1.1	0	120	70	.	.	C5,6	CP	Release Only
15	Male	3.3	-30	140	140	.	.	C5,6	CP	Lat Transfer
16	Male	6	-60	120	120	40	60	C5,6	Pmod	Lat Transfer
17	Female	2.2	20	150	90	.	.	C5,6	CP	Release Only
18	Male	7	-20	135	120	30	60	C5,6	Pmild	Lat Transfer
19	Male	2	0	150	130	30	60	C5,6	CP	Release Only
20	Male	1.3	0	140	140	30	60	C5,6	CP	Release Only
21	Female	7	-15	150	150	60	70	C5,6	C	Lat Transfer
22	Male	1.3	-10	120	60	30	60	C5,6,7	Pmild	Release Only
23	Male	1.5	0	120	90	60	40	C5,6,7	Psev	Release Only
24	Male	2.9	-20	150	130	45	45	C5,6	CP	Release/Transfer
25	Male	1	0	140	90	30	60	C5,6,7	Pmod	Release Only
26	Male	4	0	150	130	.	.	C5,6	CP	Lat Transfer
27	Female	1.5	-10	120	100	45	60	C5,6	CP	Release Only
28	Female	0.9	-20	130	120	60	60	C5,6	Pmild	Release Only
29	Male	4.7	20	135	100	45	60	C5,6,7	Pmild	Lat Transfer
30	Female	4.7	-10	150	120	60	20	C5,6	Pmild	Lat Transfer
31	Female	0.8	0	140	110	70	70	C5,6	Pmild	Release Only
32	Female	1.4	-20	100	45	30	60	C5,6,7	Pmod	Release Only
33	Female	2.1	-20	90	60	45	60	C5,6,7	Pmild	Release/Transfer

All range of movement measurements are in degrees. ER0P = passive external rotation with arm at side, ELP = passive elevation, ELA = active elevation, ER90P = passive external rotation, arm at 90°, IR90P = passive internal rotation, arm at 90°. GH = glenohumeral, C = concentric, CP = concentric/posterior, P = Pseudoglenoid, mild, moderate, or severe.

Table E2. Preoperative Data Summaries

Surgery/Joint Type	N	Male	Age	ER0P	ELP	ELA	C5,6,7	ER90P	IR90P	N*
Release Only	15	7	1.44	-2	133	94	5	43	59	9
Nonconcentric	8	4	1.33	-11	133	88	5	47	58	6
Concentric	7	3	1.56	8	134	101	0	35	60	3
Latissimus Transfer	14	7	6.69	-24	1389	121	1	47	54	5
Nonconcentric	7	3	6.34	-30	131	103	1	44	50	4
Concentric	7	4	7.04	-19	147	139	0	60	70	1
Release/Transfer	4	1	1.78	-15	131	115	1	45	53	2
Nonconcentric	3	0	1.4	-13	125	110	1	45	60	1
Concentric	1	1	2.9	-20	150	130	0	45	45	1

The N column contains the number of patients in each group based on surgery type and then further subdivided according to whether the glenohumeral joint was concentric or nonconcentric at the time of surgery. Male is the number of males in each group and subgroup, followed by their preoperative ROM; ER0P = passive external rotation with arm at side, ELP = passive elevation, ELA = active elevation, ER90P = passive external rotation, arm at 90°, IR90P = passive internal rotation, arm at 90°. C5,6,7 is the number of patients in each group with involvement of the C5,6,7 nerve roots. The remainder had involvement of the C5,6 nerve roots. * ER90P and IR90P were measured in only half the patients so they have a different N value listed in the last column. (Nonconcentric = pseudoglenoid, mild, moderate, or severe; Concentric = concentric and concentric/posterior)

Table E3. Postoperative Data

Id	Surgery	ER0P	ER0A	ER90P	ER90A	IR90P	IR#	ELP	ELA	BP	LO	GH shape by MRI
1	Release Only	45	45	70	80	30	L3	150	150	?	UA	C
2	Release Only	60	60	70	70	-20	PSIS	150	70	UA	UA	C
3	Lat Transfer	20	20	90	60	0	L5	130	130	UA	UA	C
4	Lat Transfer	60	60	90	80	20	L5	150	150	UA	UA	C
5	Release Only	60	60	90	70	30	T12	150	150	A	A	C
6	Lat Transfer	70	70	60	60	30	L2	140	140	UA	UA	C
7	Release Only	70	70	90	90	0	SAC	135	80	UA	?	C
8	Release/Transfer	70	70	70	70	40	L2	140	140	A	UA	C
9	Lat Transfer	75	65	90	90	0	SAC	140	120	UA	UA	C
10	Lat Transfer	30	20	60	30	0	GT	100	70	UA	UA	Pmod
11	Lat Transfer	60	60	90	70	0	PSIS	140	140	UA	UA	C
12	Release/Transfer	45	45	80	80	60	L3	140	140	A	UA	Refused
13	Lat Transfer	60	60	70	70	0	SAC	130	70	UA	UA	C
14	Release Only	90	90	120	90	40	PSIS	135	80	?	?	Refused
15	Lat Transfer	60	45	45	90	30	L5	150	150	UA	?	Refused
16	Lat Transfer	45	45	90	90	-10	GT	140	140	UA	UA	C
17	Release Only	70	60	90	90	30	PSIS	140	110	UA	UA	CP
18	Lat Transfer	60	30	70	70	60	T12	150	150	A	UA	Pmild
19	Release Only	60	30	90	90	30	L1	140	140	A	A	C
20	Release Only	60	60	90	90	0	PSIS	140	140	?	?	C
21	Lat Transfer	60	60	80	80	30	L2	150	150	UA	UA	Refused
22	Release Only	70	70	90	90	0	GT	120	70	UA	UA	Refused
23	Release Only	60	45	90	60	20	PSIS	120	90	?	?	Pmod
24	Release/Transfer	45	45	80	80	0	PSIS	140	140	A	UA	C
25	Release Only	90	90	90	90	20	GT	140	45	UA	?	Refused
26	Lat Transfer	40	20	70	55	20	L5	150	130	A	A	C
27	Release Only	50	50	70	70	40	PSIS	140	140	A	UA	C
28	Release Only	60	60	90	90	40	PSIS	150	150	A	UA	CP
29	Lat Transfer	80	80	100	100	-40	GT	130	70	UA	UA	C
30	Lat Transfer	70	70	110	90	20	GT	140	120	UA	UA	C
31	Release Only	60	60	90	90	45	PSIS	150	140	A	UA	C
32	Release Only	60	60	90	90	0	PSIS	120	40	UA	?	C
33	Release/Transfer	90	90	135	135	-70	GT	135	80	UA	UA	C

All range of movement measures are in degrees. ER0P = passive external rotation with arm at side, ER0A = active external rotation with arm at side, ER90P = passive external rotation, arm at 90°, ER90A = active external rotation, arm at 90°, IR90P = passive internal rotation, arm at 90°, IR# = the vertebra reached up the back, ELP = passive elevation, ELA = active elevation, BP = belly press, LO = lift-off. PSIS = posterior superior iliac spine, SAC = sacrum, and GT = greater trochanter. UA = unable and A = able. C = concentric, CP = concentric/posterior, P = pseudoglenoid.