http://dx.doi.org/10.2106/JBJS.L.01346

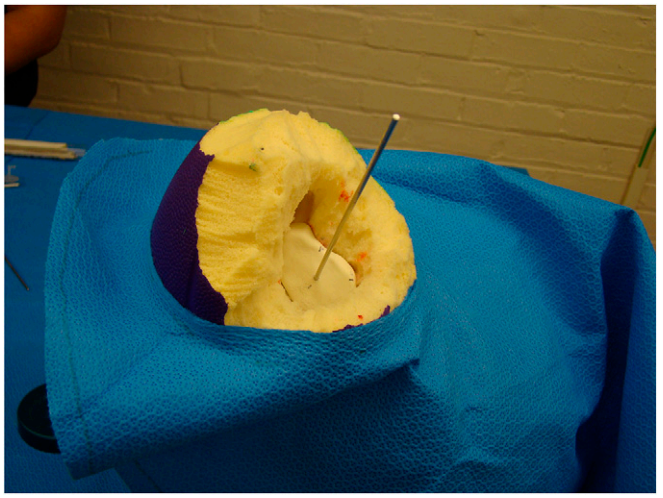

Fig. E-1
Covered Sawbones model showing exposure of the glenoid fossa after placement of the guide pin.

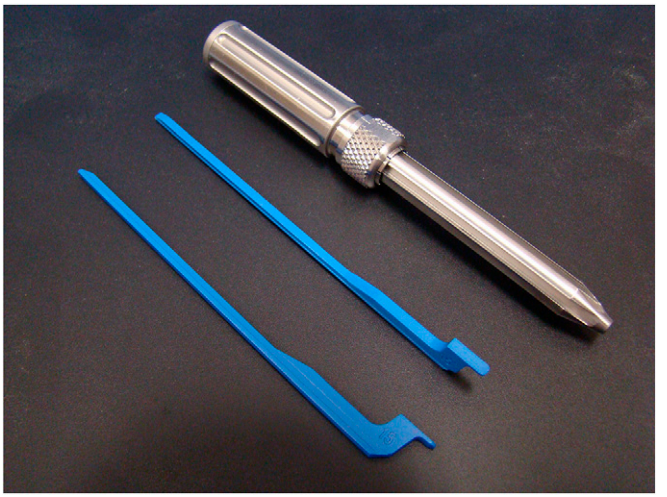

Fig. E-2
The reusable transfer device, showing two blue legs next to the assembled handle, shaft, and collet. The device contains five slots (equidistant around the central shaft) into which the legs can be inserted.

TABLE E-1 Characteristics of the Patient Glenoids

	Native Bone *(deg)*			Planned Pin* *(deg)*	
Patient	Version	Inclination	Pathology	Version	Inclination
1	−38.8	5.1°	Severe	−14.0	1.0
2	−14.2	10.4	Mild	−14.0	0.0
3	−27.9	11.9	Severe	−14.0	7.2
4	−25.3	4.1	Severe	−5.0	−4.0
5	−7.7	14.3	Mild	−6.0	6.0
6	−8.8	4.9	Mild	−3.0	12.0
7	−19.7	13.5	Severe	−2.0	9.0
8	−12.9	9.2	Mild	−1.0	0.0
9	1.6	20.1	Severe	−3.0	7.0

*In both of the methods using 3-D planning; in the method using standard instrumentation alone, the surgeon attempted to return the version and inclination to 0°.

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TABLE E-2 Comparison of Positioning Among Methods According to Severity of Pathology (All Surgeons)*

	Version		Inclination†		Location	
	Difference† *(deg)*	P Value	Difference† *(deg)*	P Value	Difference† *(mm)*	P Value
SM + 3D vs. SM						
Mild	−4.2 ± 1.57	0.008	−4.5 ± 0.99	<0.001	−0.44 ± 0.21	0.042
Severe	−2.45 ± 1.49	0.10	−4.5 ± 0.99	<0.001	−0.44 ± 0.21	0.042
EM vs. SM						
Mild	−13.82 ± 1.42	<0.001	−8.16 ± 0.89	<0.001	−1.65 ± 0.19	<0.001
Severe	−8.95 ± 1.33	<0.001	−8.16 ± 0.89	<0.001	−1.65 ± 0.19	<0.001
EM vs. SM + 3D						
Mild	−9.62 ± 1.42	<0.001	−3.66 ± 0.89	<0.001	−1.21 ± 0.19	<0.001
Severe	−6.5 ± 1.33	<0.001	−3.66 ± 0.89	<0.001	−1.21 ± 0.19	<0.001

*SM designates the use of standard instrumentation, SM + 3D designates use of standard instrumentation with 3-D planning, and EM designates use of the transfer device with 3-D planning. The cutoff between mild and severe glenoid pathology was 15° in either version or inclination.
†The values are given as the coefficient of the linear regression model and the standard error; the coefficient indicates the mean difference in positioning between a pair of methods. A negative sign indicates positioning closer to the plan, and a larger absolute value indicates a greater difference.

TABLE E-3 Comparison of Positioning Among Methods According to Surgeon (All Specimens)*

	Version		Inclination		Location	
	Difference† *(deg)*	P Value	Difference† *(deg)*	P Value	Difference† *(mm)*	P Value
SM + 3D vs. SM						
Surgeon 1	−4.93 ± 1.74	0.005	−3.32 ± 1.32	0.013	−0.09 ± 0.38	0.81
Surgeon 2	−4.66 ± 1.71	0.007	−3.32 ± 1.32	0.013	−0.27 ± 0.37	0.47
Surgeon 3	−3.89 ± 1.69	0.022	−3.32 ± 1.32	0.013	−0.96 ± 0.37	0.01
EM vs. SM						
Surgeon 1	−9.8 ± 1.56	<0.001	−11.39 ± 1.19	<0.001	−1.22 ± 0.34	<0.001
Surgeon 2	−10.13 ± 1.54	<0.001	−11.39 ± 1.19	<0.001	−1.24 ± 0.33	<0.001
Surgeon 3	−4.54 ± 1.51	0.003	−11.39 ± 1.19	<0.001	−2.5 ± 0.33	<0.001
EM vs. SM + 3D						
Surgeon 1	−4.87 ± 1.53	0.002	−8.06 ± 1.19	<0.001	−1.13 ± 0.33	<0.001
Surgeon 2	−5.47 ± 1.54	<0.001	−8.06 ± 1.19	<0.001	−0.97 ± 0.33	0.004
Surgeon 3	−0.65 ± 1.53	0.67	−8.06 ± 1.19	<0.001	−1.54 ± 0.33	<0.001

*SM designates the use of standard instrumentation, SM + 3D designates use of standard instrumentation with 3-D planning, and EM designates use of the transfer device with 3-D planning. †The values are given as the coefficient of the linear regression model and the standard error; the coefficient indicates the mean difference in positioning between a pair of methods. A negative sign indicates positioning closer to the plan, and a larger absolute value indicates a greater difference.