Highlights - **BIO-RSA Clinical Results***

The following results were observed on 34 patients with an average follow-up of 13 months by Boileau et. al:

- Significant reduction in scapular notching
- No reported instability
- No instances of glenoid loosening
- Improved anterior elevation and rotation mechanics
- Demonstrated graft healing

	Pre-Op	Post-Op *Avg. 13 Month Follow-up*
Anterior Elevation	72°	142°
External Rotation	10°	18°
Internal Rotation	L4	L3
Constant Score	27	63
SSV	27%	73%

63 Average Constant Score Improvement *(up 36 from 27)*

73 Average Subjective Shoulder Value *(up 46% from 27%)*

142° Mean Active Anterior Elevation *(improvement of 70°)*

97% Percentage of Grafts Healed to the Native Glenoid as Shown Radiographically

BIO-RSA Instrumentation

Used in conjunction with the Aequalis Reversed Shoulder System, only a few additional instruments are needed to perform the BIO-RSA procedure. The BIO-RSA instrumentation set (YKAD100) includes the following items:

P/N	Description	
MWB360	Humeral Pin Guide (for Ø 2.5 mm pin)	
MWB361	BIO-RSA Graft Reamer (Diam. 29 mm)	
MWB362	Cannulated Drill Bit (Diam. 8.3 mm)	
MWB363	Large BIO-RSA Cutting Guide	
MWB364	Extra-Large (XL) BIO-RSA Cutting Guide	
MWB366	BIO-RSA Bone Graft Remover	

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BIO-RSA™

BONY INCREASED OFFSET - REVERSED SHOULDER ARTHROPLASTY

TORNIER

BIO-RSA™ shoulder innovation only from Tornier

Reversed Lateralization – Delivering Patient Expectations

Today's reversed shoulder arthroplasty patient demands the aesthetics, function and reliability of a healthy, natural shoulder. And while reversed technology has revolutionized shoulder replacement for patients worldwide, scapular notching, rotational limitations and prosthetic instability can be persistent clinical issues – in addition to restoring the patient's own natural shoulder contour.

Now, Tornier is the first to take the reversed concept to new heights by lateralizing through the BIO-RSA technique. Pioneered by Professor Pascal Boileau (Nice, France), this technique, termed Bony Increased Offset for Reversed Shoulder Arthroplasty, achieves lateralization of the glenoid implant through a novel approach – using the patient's own native bone.

Benefits of a Lateralized Reversed Prosthesis

Lateralizing the glenoid implant through the use of specialized components has been a viable approach to addressing common issues associated with reversed shoulder arthroplasty. Through BIO-RSA, a natural approach to lateralizing, these challenging clinical situations can be managed:

- Achieving natural shoulder contour
- Instability: eliminates slack in the remaining cuff muscles
- Significantly reduced scapular notching
- Improved internal/external rotation

Center of rotation within bone.

Using BIO-RSA to Achieve Lateralization

The BIO-RSA technique uses the patient's own native bone to lateralize the prosthesis.

- When the bone heals, Grammont's Principle is observed by maintaining the center of rotation at the bone/baseplate interface
- This ideal center of rotation eliminates destructive forces that lead to glenoid loosening

* Boileau P, Roussanne Y, Bicknell R, Brassart N, Chuinard C. Bony Increased-Offset Reverse Shoulder Arthroplasty (BIO-RSA): A Biologic Solution to Scapular Notching, Prosthetic Instability and Limited Shoulder Rotation. Shoulder Concepts 2008, Arthroscopy & Arthroplasty, Nice Shoulder Course, Nice, France.

The BIO-RSA Technique

Used in conjunction with Tornier's Reversed Shoulder System, a simple auxiliary instrument set is used to create the graft from the patient's humerus.

1. The Humeral Pin Guide is placed over the humerus for positioning of the guide wire.
2. The Graft Reamer is used to create the outside edges of the graft.
3. The Drill is fed over the guide wire to create a hole in the center of the graft.
4. A Cut Guide is placed over the graft and a saw blade is used to create a 7 mm or 10 mm graft.
5. The bone graft is placed over the long post (25 mm) baseplate.
6. Holes are drilled in the glenoid to ensure a bleeding interface between the graft and the baseplate.
7. The long post baseplate and graft are impacted into the glenoid.
8. Screws are placed through the baseplate and graft to secure fixation of the baseplate to the glenoid.


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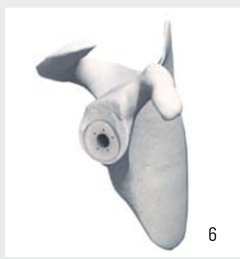
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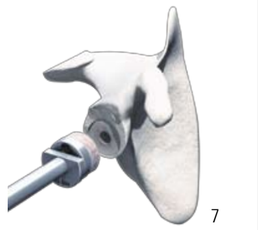
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