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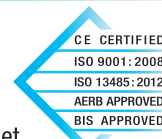
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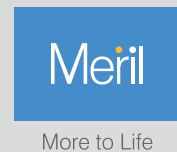
Sources:
[1] D.N.Savant, H.K.Parikh, G.V.Daifary, Efficacy and tolerability of phlogenzym in controlling postoperative inflammation in patients undergoing major surgical resection and reconstruction for head and neck malignancies, Prospective randomized, open, phase III clinical trial, Tata memorial hospital, Mumbai 400012 [2] Rhan H. D., Treatment of ankle distortion with Phlogenzyme (1992) [3] Baumuller M, The use of hydrolytic enzymes in blunt soft tissue injuries and ankle distortion, General Medicine 19 (1990), 178.



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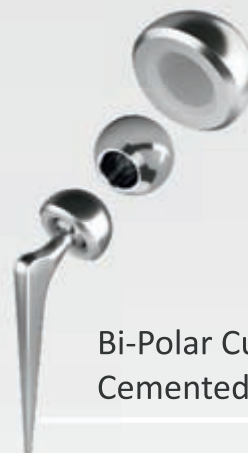
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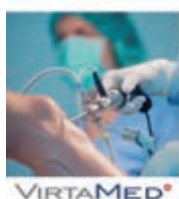
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Fig. 1 VirtaMed ArthroS™ FAST model, knee model, shoulder model, hip model.

1. Case report

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2. Results

Using a VirtaMed ArthroS™ simulator helps surgical trainees feel more confident in the OR. They get to practice triangulation and ambidextrous procedures. The use of a simulator means trainees takes up less time in the OR and reduces the expense of using cadavers. With a virtual 3D view from inside and outside (Fig. 2a., b., and c.) trainees get a comprehensive understanding of the anatomy.

3. Conclusion

Using a VirtaMed simulator is the best way to train new surgeons, practice with new tools, and learn new skills.

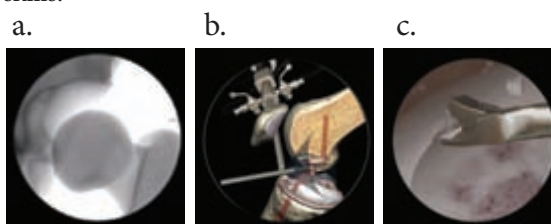


Fig. 2 VirtaMed ArthroS™ simulation view - (a.) Fluoroscopic access training, (b.) ACL graft placement simulation, (c.) Meniscus repair simulation

REFERENCES

1. Fucentese SF, Rahm S., Wieser K., Spillmann J., Harders M., Koch PP. Evaluation of a virtual-reality-based simulator using passive haptic feedback for knee arthroscopy. *Knee Surg Sports Traumatol Arthrosc.* 2014.
2. Rahm S., Germann M., Hingsammer A., Wieser K., Gerber C. Validation of a virtual reality-based simulator for shoulder arthroscopy. *Knee Surgery, Sports Traumatology, Arthroscopy.* 2016.
3. Alvand A, Logishetty K, Middleton R, Khan T, Jackson WF, Price AJ, Rees JL. Validating a global rating scale to monitor individual resident learning curves during arthroscopic knee meniscal repair. *Arthroscopy.* 2013.

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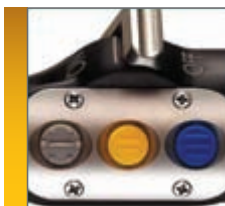
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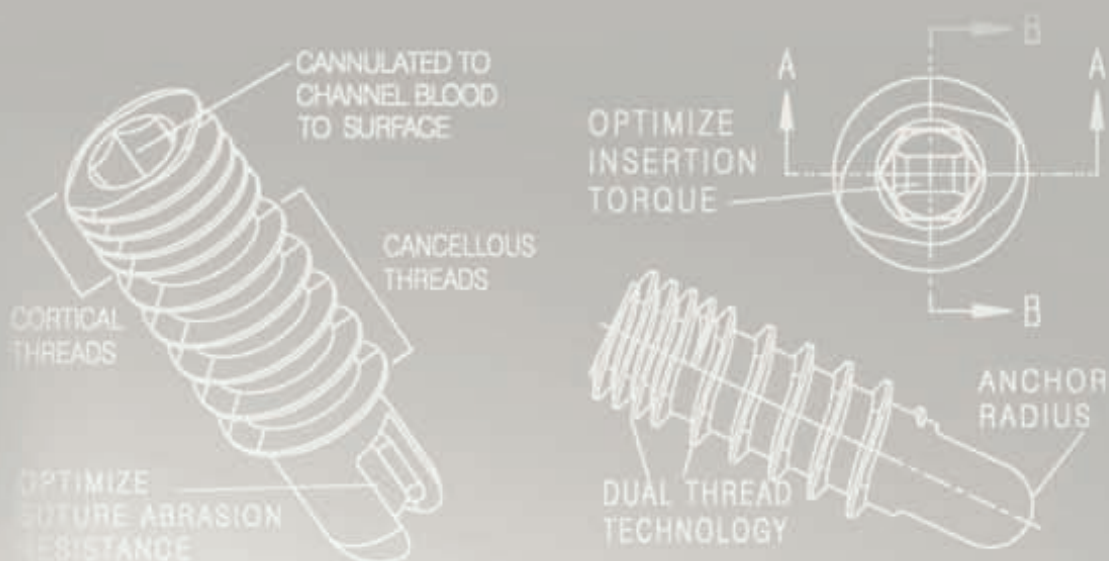
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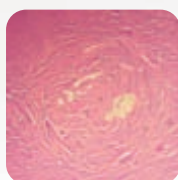
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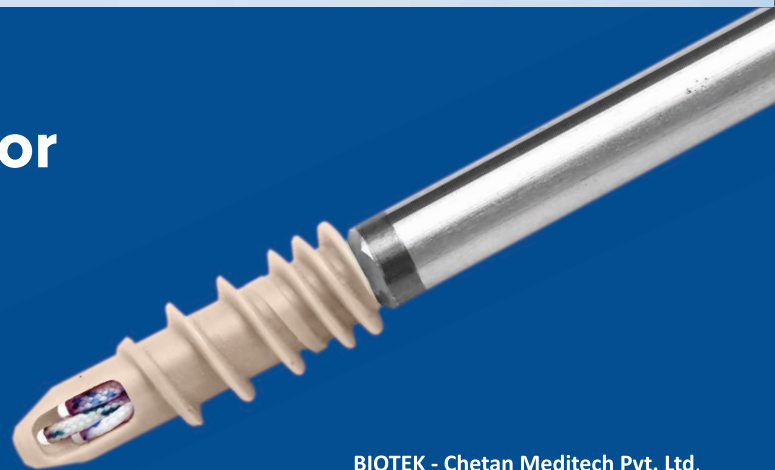
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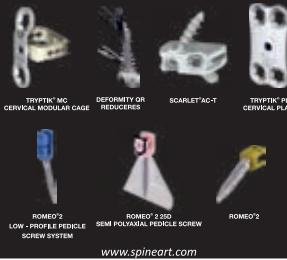
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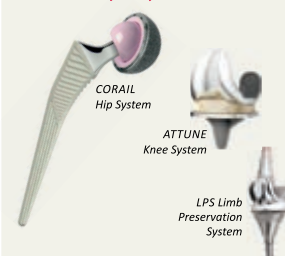
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Journal of Arthroscopy and Joint Surgery

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Journal of Arthroscopy and Joint Surgery (JAJS) is committed to bring forth scientific manuscripts in the form of original research articles, current concept reviews, meta-analyses, case reports and letters to the editor. The focus of the Journal is to present wide-ranging, multi-disciplinary perspectives on the problems of the joints that are amenable with Arthroscopy and Arthroplasty. Though Arthroscopy and Arthroplasty entail surgical procedures, the Journal shall not restrict itself to these purely surgical procedures and will also encompass pharmacological, rehabilitative and physical measures that can prevent or postpone the execution of a surgical procedure. The Journal will also publish scientific research related to tissues other than joints that would ultimately have an effect on the joint function.

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Editorial

Shoulder instability: Dealing with lesions or with devices?



The understanding of shoulder instability and its management has evolved over the years.

While the differentiation between traumatic shoulder instability and multidirectional instability is traditionally well described and understood, there also exists a spectrum of instability that is subtle and not fully recognized.^{1–5} This includes various degrees of instability without dislocation of the joint that could be congenital; due to the unique biological aspects of the capsule,⁶ or acquired; as seen in some overhead athletes.

Clearly, such a wide variation in presentation has led, over the years, to many different procedures and modifications to best approach each different aspect of the presenting lesion. The treatment for capsular and labral tears has shifted over the years from open to arthroscopic.

While arthroscopy was purely used for diagnostic purposes initially⁷ it has now become the 'Frontline' strategy with similar outcomes, and sometimes pitfalls, of open surgeries.^{8,9} Arthroscopy, even if 'minimally-invasive', is not free from complications related to the use of different implants.

One of the first described problems was related to osteolysis after the use of polylactic acid (PLA) tacks and concurrent shoulder instability due to insufficient capsular tensioning.¹⁰ The increased use of anchors and metal devices has led to devastating arthritis of the glenohumeral joint often requiring arthroscopic¹¹ or open revision operations to remove the offending devices or, in some cases, even to implant a shoulder prosthesis.

A similar problem has been described with the use of local anaesthetics post-operatively in patients operated for shoulder instability. Complete destruction of the articular cartilage and massive gleno-humeral chondrolysis has led to implantation of shoulder prosthesis in very young patients.¹²

The evolution from metal anchors to absorbable anchors became critical in avoiding some these adverse outcomes. Absorbable anchors too are not free from complications, such as synovitis or osteolytic zones in the glenoid.¹³ At times, extensive bone loss can occur after the use of numerous anchors that can lead to a fracture of the edge of the glenoid even with low-intensity trauma.¹⁴ In this scenario, the best solution appears to be a bone graft operation like the Latarjet procedure, open or arthroscopic,^{15,16} in order to correctly address the glenoid bone loss.

The assessment of glenoid bone-loss should be carried out with a CT scan that can also examine the feasibility of filling the glenoid defect with a bone graft like the coracoid.¹⁷ While the glenoid defect is important for right decision making, humerus side defects also need consideration in the over all planning. The presence of Hill-Sachs fractures may require additional procedures; remplissage

seems valid in cases of large Hill-Sachs without significant glenoid bone loss.^{18,19} Given the reported complications of the afore mentioned devices, research is moving towards the use of ever smaller anchors that achieve good pull out strength without sacrificing excessive glenoid bone.²⁰

Open surgery, such as the Latarjet or Eden-Hybinette procedures still provide a valid alternative in cases where the extent of the bone loss and capsular destruction exclude arthroscopic approach.

In conclusion we can affirm that shoulder instability is a problem still far from being known in its entirety. Often the correction of instability can lead to complications, recurrences, stiffness and even massive arthritis in young patients. The Orthopaedic surgeon must be familiar with all the aspects of this complex condition that will enable correct choice of procedure and implants to offer the most appropriate treatment.

References

1. Protzman RR. Anterior instability of the shoulder. *J Bone Joint Surg Am.* 1980; 62(6):909–918.
2. Matsen 3rd FA, Zuckerman JD. Anterior glenohumeral instability. *Clin Sports Med.* 1983;2(2):319–338. [Review].
3. Foster CR. Multidirectional instability of the shoulder in the athlete. *Clin Sports Med.* 1983;2(2):355–368.
4. Castagna A, Nordenson U, Garofalo R, Karlsson J. Minor shoulder instability. *Arthroscopy.* 2007;23(2):211–215.
5. Cofield RH, Irving JF. Evaluation and classification of shoulder instability. With special reference to examination under anesthesia. *Clin Orthop Relat Res.* 1987;(223): 32–43. [Review].
6. Porcellini G, Campi F, Pegreff F, Castagna A, Paladini P. Predisposing factors for recurrent shoulder dislocation after arthroscopic treatment. *J Bone Joint Surg Am.* 2009;91(11):2537–2542. <http://dx.doi.org/10.2106/JBJS.H.01126>.
7. Mok DW, Fogg AJ, Hakan R, Bayley JL. The diagnostic value of arthroscopy in glenohumeral instability. *J Bone Joint Surg Br.* 1990;72(4):698–700.
8. Gross RM. Arthroscopic shoulder capsulorraphy: does it work? *Am J Sports Med.* 1989;17(4):495–500.
9. Higgins LD, Warner JJ. Arthroscopic Bankart repair. Operative technique and surgical pitfalls. *Clin Sports Med.* 2000;19(1):49–62. [Review].
10. Freehill MQ, Harms DJ, Huber SM, Atlihan D, Buss DD. Poly-L-lactic acid tack synovitis after arthroscopic stabilization of the shoulder. *Am J Sports Med.* 2003;31(5):643–647.
11. Kaar TK, Schenck Jr RC, Wirth MA, Rockwood Jr CA. Complications of metallic suture anchors in shoulder surgery: a report of 8 cases. *Arthroscopy.* 2001; 17(1):31–37.
12. Anderson SL, Buchko JZ, Taillon MR, Ernst MA. Chondrolysis of the glenohumeral joint after infusion of bupivacaine through an intra-articular pain pump catheter: a report of 18 cases. *Arthroscopy.* 2010;26(4):451–461. <http://dx.doi.org/10.1016/j.arthro.2010.01.022>.
13. Shahrlazua A, Duckworth D, Bokor DJ. Perianchor radiolucency following PEEK suture anchor application associated with recurrent shoulder dislocation: a case report. *Clin Ter.* 2014;165(1):31–34. <http://dx.doi.org/10.7471/CT.2014.1658>.
14. Augusti CA, Paladini P, Campi F, Merolla G, Bigoni M, Porcellini G. Anterior glenoid rim fracture following use of resorbable devices for glenohumeral stabilization.

- Orthop J Sports Med.* 2015;3(6). <http://dx.doi.org/10.1177/2325967115586559>. eCollection 2015.
15. Mizuno N, Denard PJ, Raiss P, Melis B, Walch G. Long-term results of the Latarjet procedure for anterior instability of the shoulder. *J Shoulder Elbow Surg.* 2014;23(11):1691–1699. <http://dx.doi.org/10.1016/j.jse.2014.02.015>. Epub 2014 May 14.
 16. Lafosse L, Lejeune E, Bouchard A, Kakuda C, Gobezie R, Kochhar T. The arthroscopic Latarjet procedure for the treatment of anterior shoulder instability. *Arthroscopy.* 2007;23(11). 1242.e1–5. Epub 2007 October 3.
 17. Paladini P, Singla R, Merolla G, Porcellini G. Latarjet procedure: is the coracoid enough to restore the glenoid surface? *Int Orthop.* 2016.
 18. Purchase RJ, Wolf EM, Hobgood ER, Pollock ME, Smalley CC. Hill-sachs “remplissage”: an arthroscopic solution for the engaging hill-sachs lesion. *Arthroscopy.* 2008;24(6):723–726. <http://dx.doi.org/10.1016/j.arthro.2008.03.015>.
 19. Merolla G, Paladini P, Di Napoli G, Campi F, Porcellini G. Outcomes of arthroscopic Hill-Sachs remplissage and anterior Bankart repair: a retrospective controlled study including ultrasound evaluation of posterior capsulotenodesis and infraspinatus strength assessment. *Am J Sports Med.* 2015;43(2):407–414. <http://dx.doi.org/10.1177/0363546514559706>. Epub 2014 December 11.
 20. Agrawal V, Pietrzak WS. Triple labrum tears repaired with the Juggernaut™ soft anchor: technique and results. *Int J Shoulder Surg.* 2015;9(3):81–89. <http://dx.doi.org/10.4103/0973-6042.161440>.

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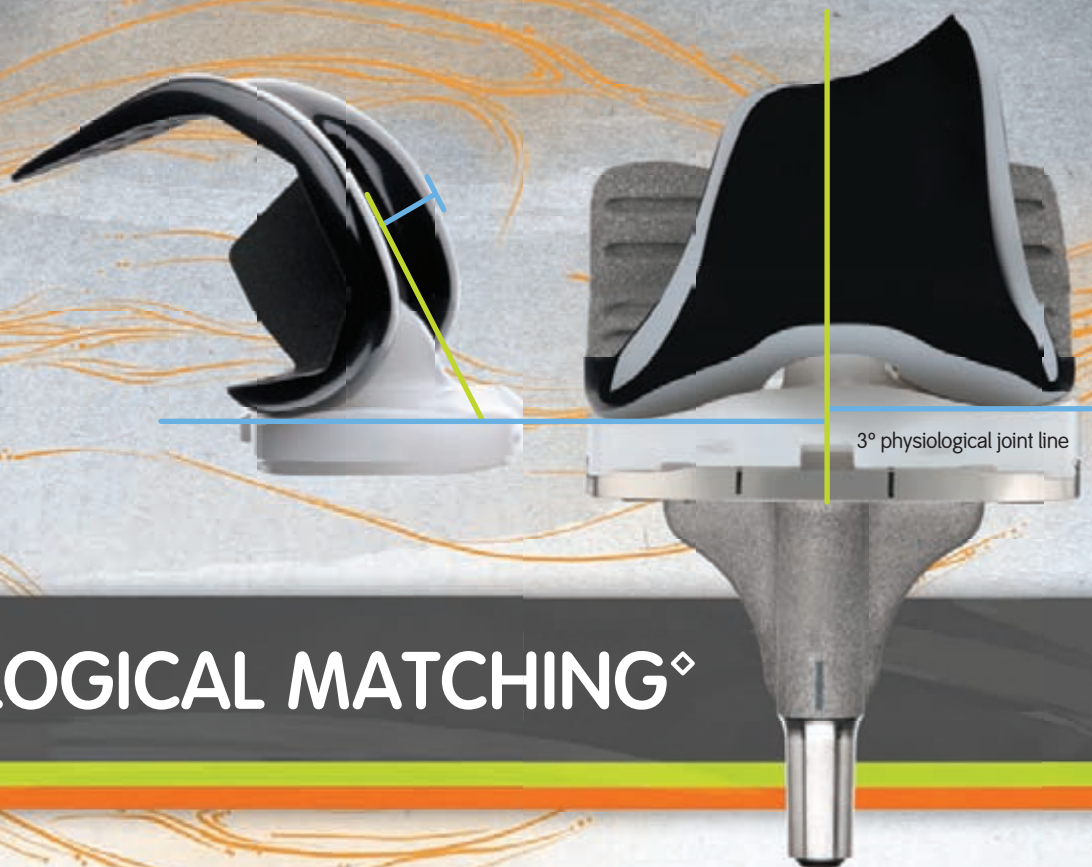


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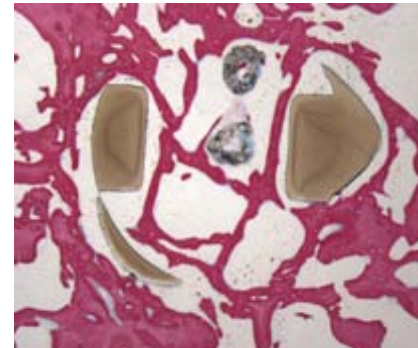
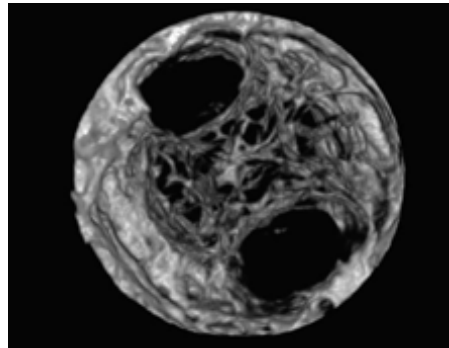
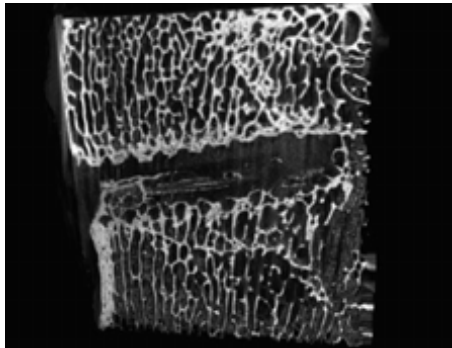
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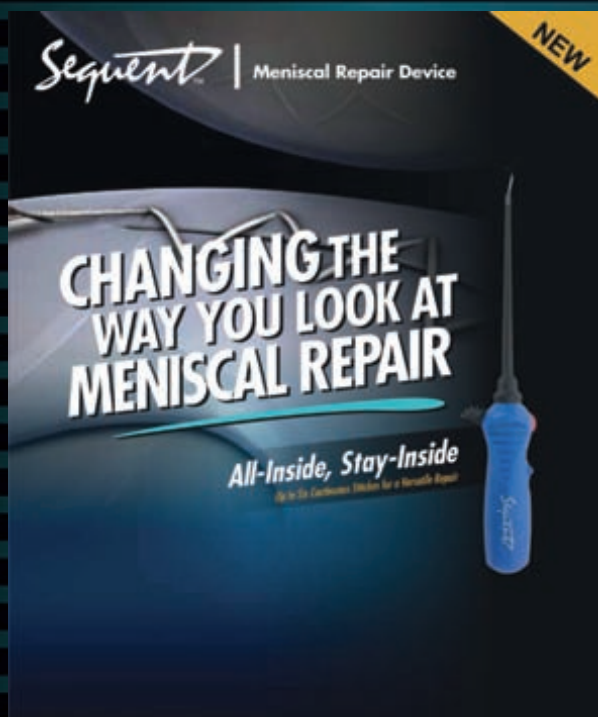
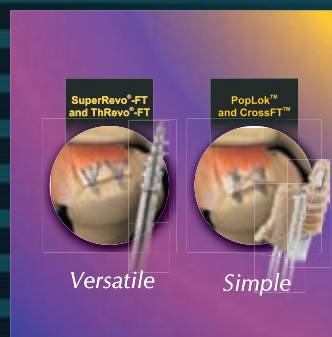
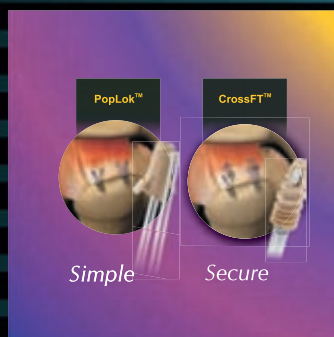


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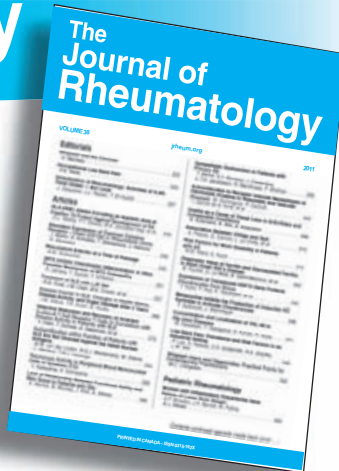
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