

# Outcomes from osteochondral defect fixation with bio-absorbable devices

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## Background & Aim

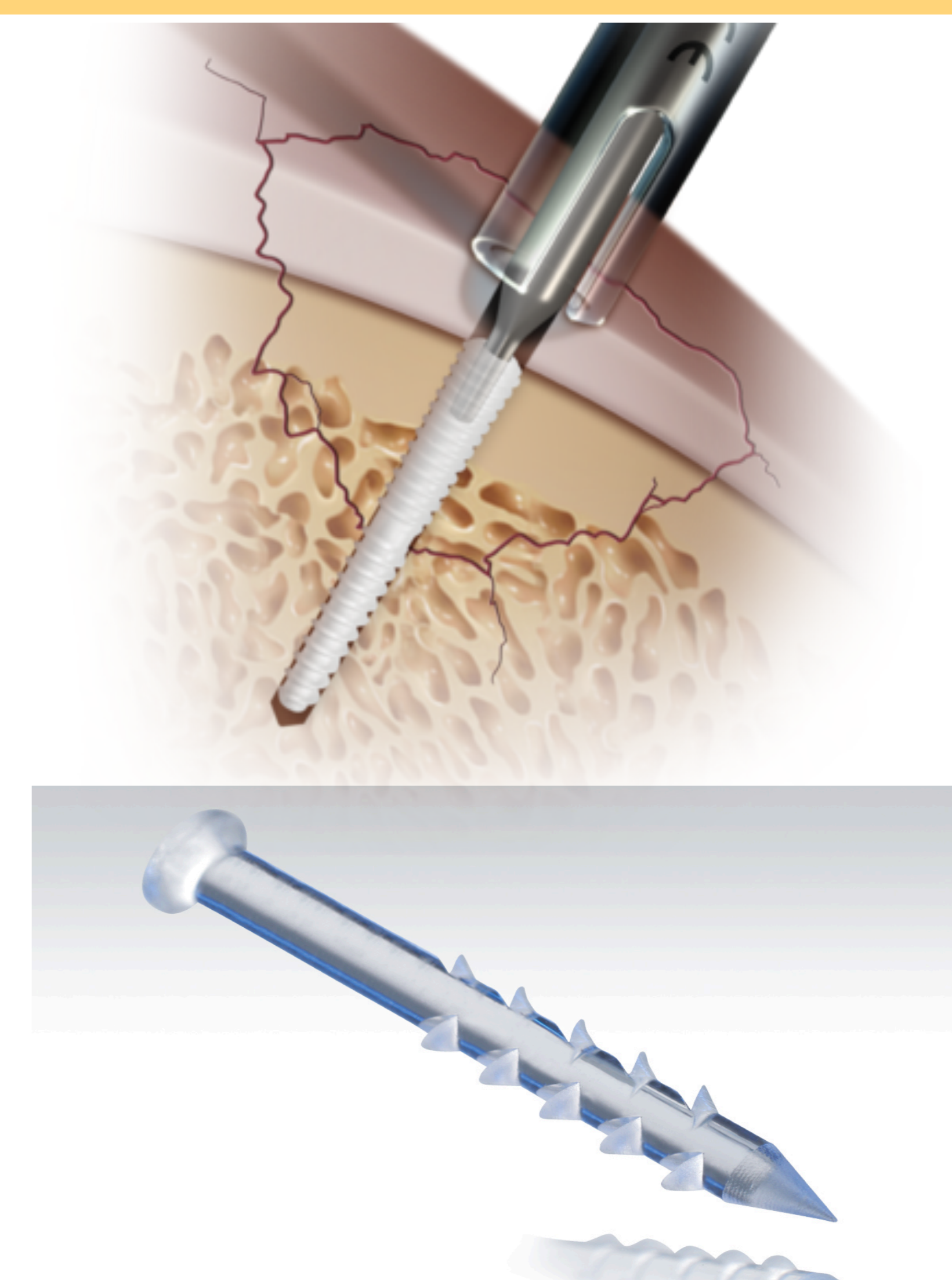
- There are a variety of surgical treatment options for osteochondral defects (OCD). However, there is no consensus on the optimal way to manage them.
- The aim of this study was to investigate the efficacy and outcomes of bio-absorbable fixation methods.

## Methods

- Retrospective, single-centre cohort study.
- 25 patients between February 2015 and March 2021.
- 12 smart nail fixations, 10 bio-compression screw and 3 had a combination of these devices.
- Mean total follow-up: 10.6 months (0-49 months).

### Demographics

- Sex: 17 : 8 (M : F).
- Mean age (range): 24 (11 – 63).
- Etiology: 15 : 10 (traumatic : osteochondritis dissecans [OCXD]). All traumatic defects caused by patella dislocation.
- Primary outcome was return to theatre for diagnostic or therapeutic arthroscopy for ongoing pain, instability or mechanical symptoms.



## Results

- 28% (n=7) required a return to theatre, plus 2 considered that had radiological displacement/fragmentation of OCD post fixation but tolerating symptoms.
- 16% (n=4) arthroscopically or MRI demonstrated fixation failures.

Table 1. Summary of results

	Smart nail (n=12)	Bio compression screw (n=10)	Nail and screw (n=3)
Return to theatre for mechanical Sx and pain	5 (plus 2 considered that had fixation failure)	1	1
MRI or arthroscopically proven fixation failure	3 (1 trauma : 2 OCXD)	1 (OCXD pt)	0
Mean f/u (range)	15.5 (2.5-49)	5.2 (0-15)	9.3 (4-14)
Other complication	0	1 superficial venous thrombus (trauma pt)	0

## Discussion

The overall return to theatre rate (>1 in 4) is high, reaffirming that these are challenging injuries to treat. There were 2 arthroscopically demonstrated fixation failures with OCD displacement requiring removal and plan for revision. In addition, there were 2 MRI proven fixation failures. The majority of other patients

that returned to theatre, that had stable fixation (n=5), underwent minor chondroplasty to the defect or other areas of OA. Traumatic osteochondral fractures and defects secondary to osteochondritis dissecans treated with bio-absorbable fixation devices had a similar return to theatre rate (26% and 20% respectively).