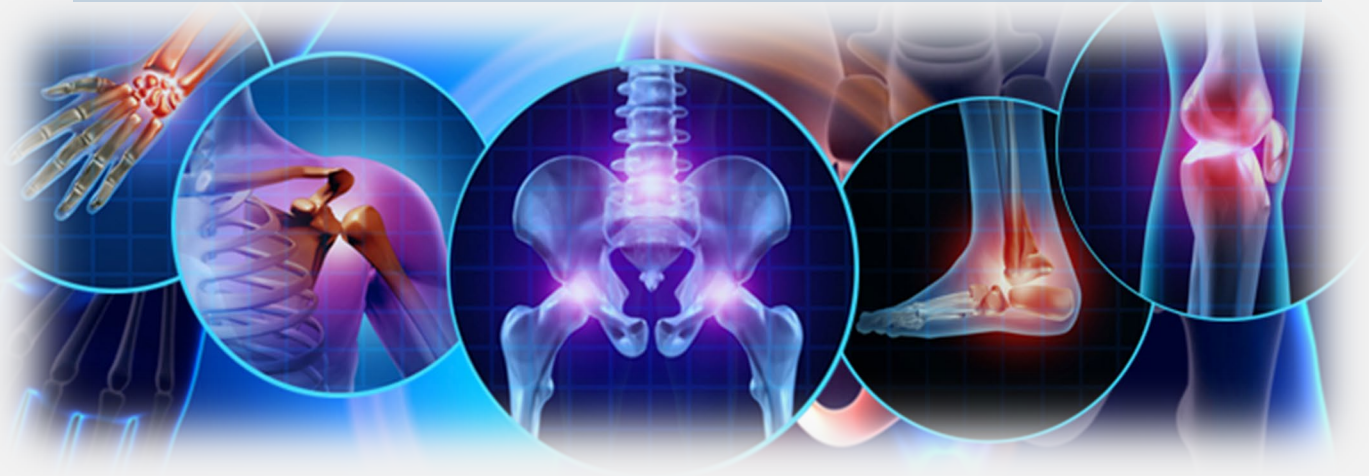


ORTHO NEWSCAST



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Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "Ortho Newscast" which contains latest and interesting news in the field of Orthopaedics.

This issue contains

1. Comparison of completely endoscopic spine surgery's effectiveness in treating prolapsed lumbar 4/5 disc herniation utilising transforaminal and interlaminar methods
2. Femoral Cutting Jig System All-in-One Versus Four-in-One for Total Knee Arthroplasty: A Comparison Study
3. A prospective research on total hip arthroplasty in young patients with ankylosing spondylitis
4. An analysis of the literature and a case report of ischiofemoral impingement syndrome

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Limited



Comparison of completely endoscopic spine surgery's effectiveness in treating prolapsed lumbar 4/5 disc herniation utilising transforaminal and interlaminar methods

A common lumbar spine fusion treatment used to treat degenerative lumbar disorders is transforaminal lumbar interbody fusion (endoscopic transforaminal lumbar discectomy, ETLD). Endoscopic interlaminar lumbar discectomy (EILD), also known as interlaminar endoscopic lumbar discectomy, is a supplementary surgical procedure.¹ Both surgical procedures are complimentary and may be prerequisites for spinal endoscopic surgeons treating lumbar herniated discs.² In order to provide a reference for choosing the best surgical approach for the clinical treatment of intervertebral disc herniation of the lumbar 4/5 segments, this study retrospectively analysed the efficacy and complications of ETLD and EILD in the treatment of intervertebral disc herniation of the lumbar 4/5 segments.³

Sixty-six patients with lumbar 4/5 disc herniation were hospitalised, and they were separated into two groups based on the surgical strategy used: endoscopic transforaminal lumbar discectomy (ETLD; 54 instances) and endoscopic interlaminar lumbar discectomy (EILD; 22 cases). The patients' overall clinical information and clinical assessment scale were contrasted.

The post-operative Oswestry Disability Index (ODI) and visual analogue scale (VAS) ratings in the EILD group were significantly higher ($P < 0.05$) (Table 1). Patients with upper-shoulder and sub-axillary kinds underwent EILD rather than ETLD and had higher VAS and ODI ratings as a result ($P < 0.05$) (Table 2), whereas patients with pre-radicular types had ETLD rather than EILD and had higher VAS and ODI scores as a result ($P < 0.05$). Although there was no significant difference in VAS scores ($P > 0.05$), patients with Lee zone III type in the EILD group had superior post-operative ODI scores than those in the ETLD group ($P < 0.05$). EILD patients with Lee zone IV type showed higher VAS and ODI ratings than ETLD patients ($P < 0.05$), who received ETLD (Table 3).

Table 1: Comparison of VAS and ODI scores between patients with ELLD and EPLD before and after operation

	Number	Preoperative ODI (%)	Preoperative VAS	Post operative ODI (%)	Postoperative VAS (points)
ELLD	54	71.37±5.23	6.06±0.73	7.81±2.17	1.87±0.72
EPLD	22	71.73±5.49	6.09±0.68	5.73±2.07	1.50±0.59
t		0.266	0.193	3.848	2.111
P		0.791	0.847	0	0.038

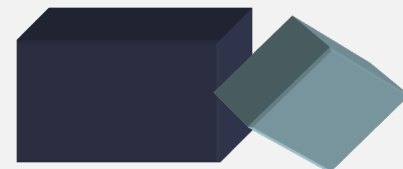


Table 2: Comparison of VAS and ODI scores between patients with sub-axillary type before and after operation (n=25)

	Number	Preoperative ODI (%)	Preoperative VAS	Post operative ODI (%)	Postoperative VAS (points)
ELLD	9	71.11±5.92	6.11±0.60	8.67±1.73	2.33±0.86
EPLD	16	72.63±5.73	6.19±0.65	5.63±2.21	1.56±0.62
t		0.626	0.288	3.541	2.568
P		0.537	0.776	0.002	0.017

Table 3: Comparison of VAS and ODI scores between patients with Lee zone IV type before and after operation (n=20)

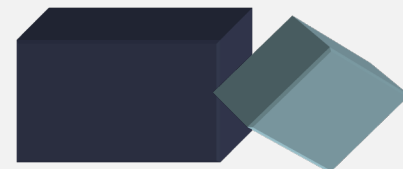
	Number	Preoperative ODI (%)	Preoperative VAS	Post operative ODI (%)	Postoperative VAS (points)
ELLD	5	70.80±7.29	5.40±0.54	8.40±1.67	2.60±0.54
EPLD	15	71.47±5.63	6.00±0.75	5.60±1.72	1.33±0.48
t		0.214	1.625	3.166	4.888
P		0.833	0.121	0.005	0.000

The findings demonstrated that there was no significant difference in the post-operative hospital stay or recurrence rate, and that both ETLT and EILD significantly reduced the symptoms of low back and leg discomfort. According to relevant reports, EILD has more post-operative skin paraesthesia and a higher likelihood of nerve injury than ETLT. This is primarily because of cannula misplacement or interference with ligamentum flavum identification by structures like facet joint cysts, muscles, and ligaments. ETLT also takes longer to perform, requires more fluoroscopies, and has a higher incidence of residuals.³

Overall, although both ETLT and EILD have fair surgical results for lumbar 4/5 disc herniation, EILD can be more effective for patients with Lee zone III or IV type and an upper-shoulder or sub-axillary type.

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Femoral Cutting Jig System All-in-One Versus Four-in-One for Total Knee Arthroplasty: A Comparison Study

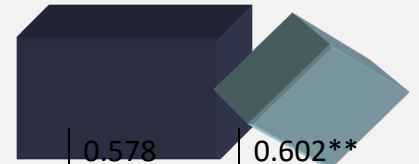
The most prevalent kind of arthritis in the world is osteoarthritis (OA). There is no medicinal therapy for knee OA, one of the most prevalent and symptomatic locations for illness, and patients frequently have knee replacement surgery.¹ The procedure known as total knee arthroplasty (TKA) is frequently used to treat advanced osteoarthritis and other incapacitating knee diseases.² One of the TKA implants with different component designs, such as femoral component cutting jigs, is the posteriorstabilized (PS) implant. But little is understood about how variations in cutting jig designs impact the results. This study compares the radiographic and functional results of patients who had cemented TKA utilising PS implants with an all-in-one and a four-in-one femoral component.³

Using PS implants, a retrospective comparative research evaluated patients who undergone cemented TKA. Four-in-one and all-in-one patient groups were created. The researchers gathered and compared demographic information, operation time, postoperative radiological results after one week, and functional results after two years.

Ninety - six patients in total satisfied the requirements for inclusion. The preoperative score comparison of the two groups revealed no appreciable variations and homogeneity in all scoring systems between preoperative samples of the two groups (SF-12, Short Form Knee Society knee Score (KSS), and Knee Injury and Osteoarthritis Outcome Score (KOOS) scores) (Table 1). The all-in-one (universal) group's surgical time was found to be considerably shorter than the four-in-one group's ($p = 0.000$); other outcome comparisons revealed minor differences. (Table 2)

Table 1: Preoperative score comparison between all-in-one and four-in-one implant.

	Parameter	All-in-one (n = 55)	Four-in-one (n=41)	P value	Homogeneity of variances
SF-12	Physical score	20.54 ± 0.64	20.53 ±0.65	0.609	0.719**
	Mental score	61.49 ± 2.25	60.96 ±2.26	0.254	0.727**
	How long can you walk (0-20)	9.82± 2.01	10.05± 2.01	0.578	0.602**
	Walking on an uneven surface (0-15)	7.64± 1.50	7.46± 1.51	0.578	0.602**
	Climbing or descending stairs (0-15)	7.36±1.50	7.54 ± 1.52	0.578	0.602*
KSS (short form)	Getting up from a low couch or chair without arms (0-15)	7.64 ± 1.50	7.46±1.51	0.578	0.602**
	Running (0-20)	8.00± 0.00	8.00 ± 0.00	1.000	



	Discretionary activity (0-15)	7.36±1.50	7.54 ±1.51	0.578	0.602**
	Total (0-100)	47.81± 2.01	48.05 2.02	0.578	0.602**
	Pain	56.00 0.00	56.00± 0.00	1.000	
	Symptoms	48.18± 2.01	47.95± 2.04	0.578	0.602**
KOOS	Activities of daily living (ADL)	56.45± 0.50	56.51± 0.50	0.578	0.602**
	Sport and recreation	47.73 ± 2.51	47.44± 2.53	0.578	0.602**
	Quality of life	44.00 ± 0.00	44.00 ±0.00	1.000	

Table 2: Outcome comparison between all-in-one & four-in-one implant.			
Parameter	All-in-one (n = 55)	Four-in-one (n=41)	p-value
Surgery duration (minutes)	128.00± 36.24	210.61± 57.54	0.000*
Alpha (a) angle	97.02± 2.77	96.35 ±5.46	0.476
Beta (B) angle	86.62 ± 2.80	86.03 ± 2.41	0.273
X-ray finding Delta (δ) angle	86.33± 4.36	86.81 ± 4.24	0.594
Gamma (γ) angle	7.61 ±5.47	7.38 ± 4.56	0.818
Physical score	51.79± 7.99	51.58±7.96	0.119
SF-12 Mental score	58.10 ±0.72	58.06 ±0.56	0.815
How long can you walk (0-20)	17.82± 2.96	16.88± 2.76	0.059
Walking on an uneven surface (0-15)	14.78± 0.96	15.00 ±0.00	0.131
Climbing or descending stairs (0-15)	13.91± 3.18	11.93 ±5.71	0.100
KSS (short form) Getting up from a low couch or chair without arms (0-15)	14.56± 2.19	14.49± 2.41	0.724
Running (0-20)	1.04± 2.96	1.61 ±4.09	0.676
Discretionary activity (0-15)	14.56± 2.12	15.00 0.00	0.079
Total (0-100)	76.67 ± 7.98	74.90 ±8.07	0.063
Pain	97.20± 5.05	98.98± 1.59	0.082
Symptoms	79.07 ± 8.63	80.76± 5.33	0.184
KOOS Activities of daily living (ADL)	97.31 ±5.51	98.34± 1.76	0.494
Sport and recreation	69.87 ± 16.83	72.80 ±8.37	0.736
Quality of life	88.87±12.26	92.93± 3.16	0.178

The ASA score, which is frequently used to assess patients' physical condition and assist in predicting operational risks, indicated a significant difference in the study population features.³ Total hip and knee arthroplasty procedure length is a unique risk factor for wound problems as well as a number of other significant postoperative issues. To reduce patient morbidity, thorough prior planning and postoperative preventative actions should be taken.⁴



In summary, there is no difference between the four-in-one and all-in-one TKA cutting jig systems in terms of the postoperative functional and radiological result.

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A prospective research on total hip arthroplasty in young patients with ankylosing spondylitis

Ankylosing spondylitis (AS) is the primary prototype of the spondyloarthritis (SpA) group of chronic inflammatory rheumatic diseases. Early on, it typically affects the axial spine, the entheses, and the sacroiliac joints, with inflammation and stiffness in the back being the main symptoms.¹ Hip involvement affects 30–50% of AS patients, and 90% of those who have the impacted hip have bilateral involvement, necessitating complete hip replacement in the end (THA).^{2,3} This study's objective is to assess the clinical, radiological, and functional results of uncemented THA in young ankylosing spondylitis patients.

Twelve ankylosing spondylitis patients who were male and above the age of 25 participated in this prospective research. All 12 of the AS instances involved uncemented THA. Cases were followed up for a total of six months beyond the study's 12-month runtime. Harris Hip Score (HHS) was often used to assess the hip's functional outcome.

For the research, 12 young male AS patients with an average age of 36 had surgery were chosen. According to the Harris Hip Score (HHS), the ultimate functional results of the hip were 8 (67%) good results, 3 (25%) superb results, and 1 (8%) fair results. On the basis of anterior-posterior (AP) radiographs obtained immediately before surgery and subsequently at 1, 2, 3, and 6 months, the radiological result was determined (Figure 1 & 2). Except in 3 patients, where heterotrophic ossification was seen in an AP radiograph 6 months after surgery, the radiological result was excellent.



Figure 1: Patient with bilateral bony ankylosis of hip joint due to Ankylosing Spondylitis



Figure 2: Patient with unilateral bony ankylosis of right hip joint due to Ankylosing Spondylitis

Orthopaedic surgeons have a hurdle when doing THA on Ankylosing spondylitis patients who have fused hips. Technical difficulties with THA in these patients are mostly brought about by acetabular protrusion, osteopenia, and bone loss.³ In their prospective research, Girish Marappa et al. discovered that the majority of patients had positive results after THAs, and most of them also noted improvements in their HHS. Due to the inflammatory aetiology of end-stage arthritis, THA is unavoidable in patients since it inhibits their activities and posture.^{3,4}

This study finds that Total Hip Arthroplasty (THA) using uncemented cement in young patients treated for ankylosing spondylitis significantly improves patients' clinical and functional outcomes. THA is required for these stiff hips in AS due to the increase in functional result, quality of life, and postoperative pain reduction.

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An analysis of the literature and a case report of ischiofemoral impingement syndrome

A disorder known as ischiofemoral impingement (IFI) syndrome is defined by pathological alterations in the quadratus femoris muscle brought on by a reduction in the space between the ischial tuberosity and the lesser trochanter of the femur.¹ Groin and/or posterior hip discomfort are the most common complaints from IFI patients. When the stance phase of gait is about to terminate, the discomfort typically manifests with hip extension. The pressure of the surface on the posterior hip causes discomfort in the sitting posture rather frequently.² Some individuals show narrowing of the gap between the lesser trochanter and ischial tuberosity as a result of trauma or aberrant quadratus femoris muscle architecture. The diagnosis is aided by combining clinical and imaging data. This paper is a case study of a patient with IFI syndrome who had endoscopic resection of the lesser trochanter without a history of trauma.³

A 32-year-old patient arrived with right buttock soreness that had been persistent for three years. The dull pain started slowly and spread to the back of the lower right leg. Upon inspection, the right hip was free of any edema, scars, or sinuses. When the patient moved her right hip, there was an audible and tactile crack in the hip. The right ischiofemoral space was smaller (12.6 mm) than the left ischiofemoral space (22.6 mm) on axial T1W and PDFS MRI images (Fig. 1). When compared to the left quadratus femoris muscle, the axial T1W imaging of the right muscle revealed modest fatty atrophy (Fig. 1). The right lesser trochanter was removed endoscopically as part of the patient's surgical care (Fig. 4). The extensive excision of the lesser trochanter was verified by postoperative radiographs of the right hip (anteroposterior and lateral views) (Fig. 5). The patient was instructed to bear some weight on the right lower limb for two weeks before going fully weight bearing. While carrying out her regular daily tasks, the patient felt no pain.

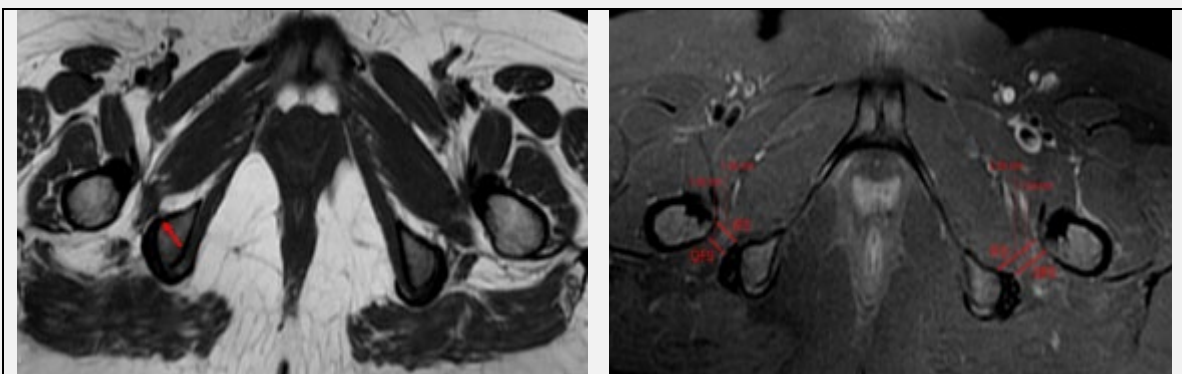


Figure 1: Axial T1W and PDFS MRI images, showing reduction of the right ischiofemoral space compared to the left & Axial T1W image: subtle fatty atrophy of the right quadratus femoris muscle (red arrow)



Figure 2 : Endoscopic view of the right lesser trochanter before resection

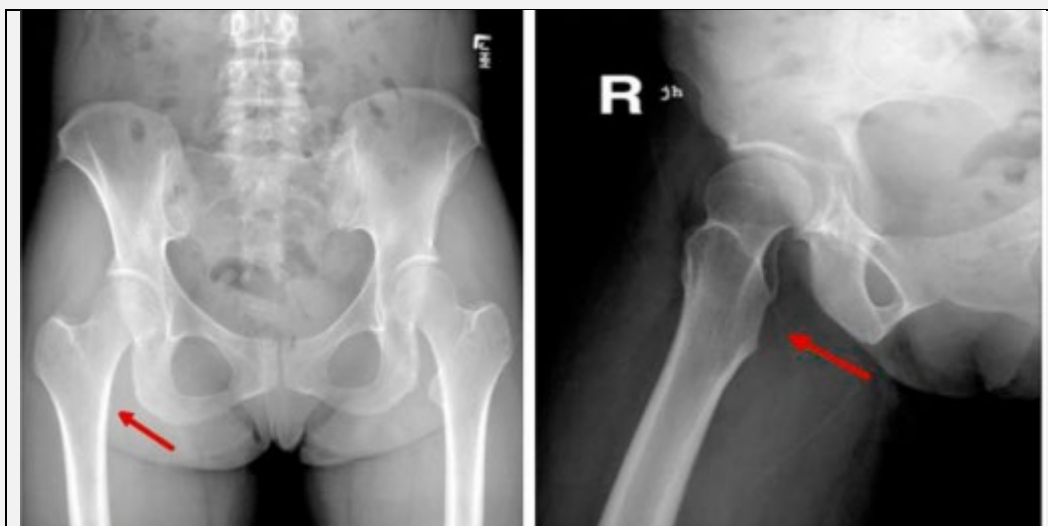


Figure 3: Postoperative radiograph of right hip showing resection of lesser trochanter (red arrow)

Numerous therapy approaches have been tried, however it is uncertain which is the best approach. IFI syndrome can be treated conservatively with rest, activity restriction, analgesics, physical therapy, steroids administered under CT or US guidance, anaesthetics, and prolotherapy into the quadratus femoris muscle, or surgically with open or endoscopic resection of the lesser trochanter or ischioplasty.²

If hip pain is accompanied by a quadratus femoris muscle signal anomaly and occurs at the extremities of movement, IFI syndrome, an atypical cause of hip pain, may be investigated. The appropriate course of action is taken to treat the triggers that gave rise to the IFI condition.



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