Supplementary table 1: search strategy for Medline

**(**((exp \*"Spinal Diseases"/ OR Spinal diseases.ti,ab OR Intervertebral disk displacement.ti,ab OR Spinal osteophytosis.ti,ab OR Spinal stenosis.ti,ab OR Spondylarthritis.ti,ab OR Spondylitis.ti,ab OR Spondylolisthesis.ti,ab OR "Spinal Osteophytosis".ti,ab OR exp \*"Back Pain"/ OR Back pain.ti,ab OR \*"Sciatica"/ OR sciatica.ti,ab OR radiculopathy.ti,ab OR "Spinal Cord Compression".ti,ab OR back.ti,ab OR spine.ti,ab OR ((stenosis.ti,ab OR osteophytosis.ti,ab.) AND (spine.ti,ab OR spinal.ti,ab OR vertebr\*.ti,ab)) OR discopath\*.ti,ab OR diskopath\*.ti,ab OR disk displacement.ti,ab OR disc displacement.ti,ab OR spondylarthritis.ti,ab OR spondylitis.ti,ab OR spondylolisthesis.ti,ab OR sciatica.ti,ab OR back pain.ti,ab. OR "lumbar disc herniation".ti,ab OR "lumbar disk herniation".ti,ab OR "lumbar disc herniations".ti,ab OR "lumbar disk herniations".ti,ab OR "lumbar disc prolapse".ti,ab OR "lumbar disk prolapse".ti,ab OR exp \*"Intervertebral Disc Displacement"/) AND (exp \*"Endoscopy"/ OR "Endoscopy".ti,ab OR "Arthroscopy".ti,ab OR \*"Arthroscopy"/ OR "Video-Assisted Surgery".ti,ab OR exp \*"Minimally Invasive Surgical Procedures"/ OR **"Minimally Invasive surg\*".ti,ab** OR "Microsurgery".ti,ab OR **"Percutaneous Diskectomy".ti,ab** OR endoscop\*.ti,ab. OR microendoscop\*.ti,ab. OR \*"Microsurgery"/ OR microsurgery.ti,ab. OR microsurgical.ti,ab. OR arthroscop\*.ti,ab. OR Foraminotom\*.ti,ab. OR foraminoplast\*.ti,ab. OR minimally invasive surgery.ti,ab. OR video assisted surgery.ti,ab. OR discoscop\*.ti,ab. OR Percutaneous transforminal endoscopic discectomy.ti,ab OR Percutaneous transforminal endoscopic discectomy.ti,ab. OR Surgical procedures.ti,ab OR Surgical procedures.ti,ab. OR Discectomy Spinal cord compression.ti,ab OR Discectomy Spinal cord compression.ti,ab. OR Discectomy Spinal cord decompression.ti,ab OR Discectomy Spinal cord decompression.ti,ab. OR Percutaneous Sciatica.ti,ab OR Percutaneous Sciatica.ti,ab. OR microdiscectom\*.ti,ab OR microdiskektom\*.ti,ab OR microdiskectom\*.ti,ab) AND (exp "randomized controlled trial"/ OR controlled clinical trial.pt. OR randomized.**ti,**ab. OR placebo.**ti,**ab. OR randomly.**ti,**ab. OR trial.**ti,**ab. OR groups.**ti,**ab. OR RCT.ti,ab OR Comparative Study.pt)) **OR** (("percutaneous endoscopic discectom\*".ti,ab OR "endoscopic microdiscectom\*".ti,ab OR "percutaneous endoscopic diskectom\*".ti,ab OR "endoscopic microdiskectom\*".ti,ab OR "percutaneous endoscopic diskektom\*".ti,ab OR "endoscopic microdiskektom\*".ti,ab) AND (exp "randomized controlled trial"/ OR controlled clinical trial.pt. OR randomized.ti,ab. OR placebo.ti,ab. OR randomly.ti,ab. OR trial.ti,ab. OR groups.ti,ab. OR RCT.ti,ab OR Comparative Study.pt))**)**

Supplementary table 2: excluded studies with reasons (N=10)

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| Study | Reason |
| Ding ZM, Tao YQ (2017) Clinical outcomes of percutaneous transforaminal endoscopic discectomy versus fenestration discectomy in patients with lumbar disc herniation. Journal of International Translational Medicine 5:29-33 | Recurrent LDH |
| Kong L, Shang XF, Zhang WZ, Duan LQ, Yu Y, Ni WJ, Huang Y (2019) Percutaneous endoscopic lumbar discectomy and microsurgical laminotomy : A prospective, randomized controlled trial of patients with lumbar disc herniation and lateral recess stenosis. Orthopade 48:157-164 | Other condition than LDH |
| Ahmed M, Nawaz MF, Ullah H, Sameja MS (2019) To compare the frequency of unintended durotomy in open discectomy versus endoscopic discectomy. Medical Forum Monthly 2019 30:105-108 | Surgery type (N=6) |
| Arestov SO, Vershinin AV, Gushcha AO (2014) [A comparative analysis of the effectiveness and potential of endoscopic and microsurgical resection of disc herniations in the lumbosacral spine]. Zh Vopr Neirokhir Im N N Burdenko 78:9-14 |
| Belykh E, Giers MB, Preul MC, Theodore N, Byvaltsev V (2016) Prospective Comparison of Microsurgical, Tubular-Based Endoscopic, and Endoscopically Assisted Diskectomies: Clinical Effectiveness and Complications in Railway Workers. World Neurosurg 90:273-280 |
| Meyer G, ID DAR, Cristante AF, Marcon RM, Coutinho TP, Torelli AG, Petersen PA, Letaif OB, TEP DEBF (2020) Percutaneous Endoscopic Lumbar Discectomy Versus Microdiscectomy for the Treatment of Lumbar Disc Herniation: Pain, Disability, and Complication Rate-A Randomized Clinical Trial. Int J Spine Surg 14:72-78 |
| Pan L, Zhang P, Yin Q (2014) Comparison of tissue damages caused by endoscopic lumbar discectomy and traditional lumbar discectomy: A randomised controlled trial. International Journal of Surgery 12:534-537 |
| Singh S, Sardhara JC, Khatri D, Joseph J, Parab AN, Bhaisora KS, Das KK, Mehrotra A, Srivastava AK, Behari S (2018) Technical pearls and surgical outcome of early transitional period experience in minimally invasive lumbar discectomy: A prospective study. J Craniovertebr Junction Spine 9:122-129 |
| Liu X, Yuan S, Tian Y, Wang L, Gong L, Zheng Y, Li J (2018) Comparison of percutaneous endoscopic transforaminal discectomy, microendoscopic discectomy, and microdiscectomy for symptomatic lumbar disc herniation: minimum 2-year follow-up results. J Neurosurg Spine 28:317-325 | Retrospective design |
| Ning HX, Yuan YW, Zhang QY, Sun ZZ, Ning HY, Wang P (2018) Percutaneous transforaminal endoscopic discectomy and miniincision surgery in the treatment of lumbar intervertebral disc protrusion. J Biol Regul Homeost Agents 32:565-569 | Unable to obtain/translate |