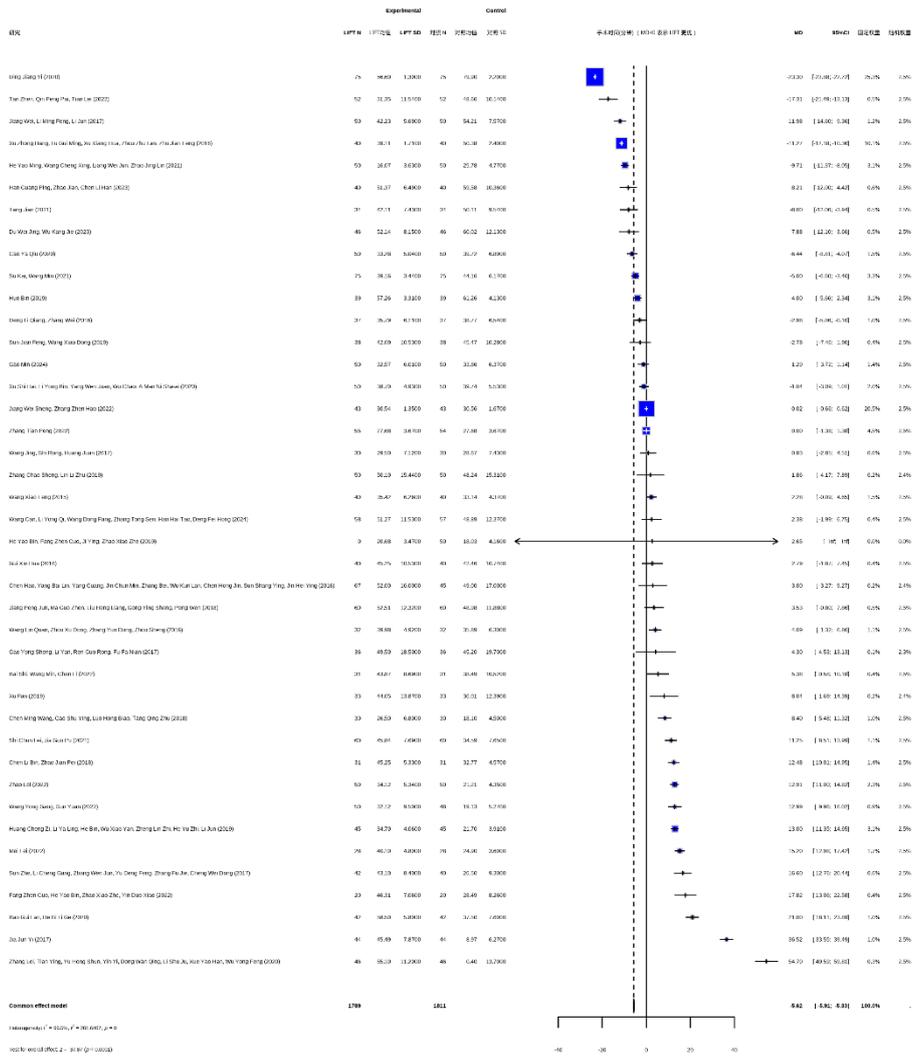
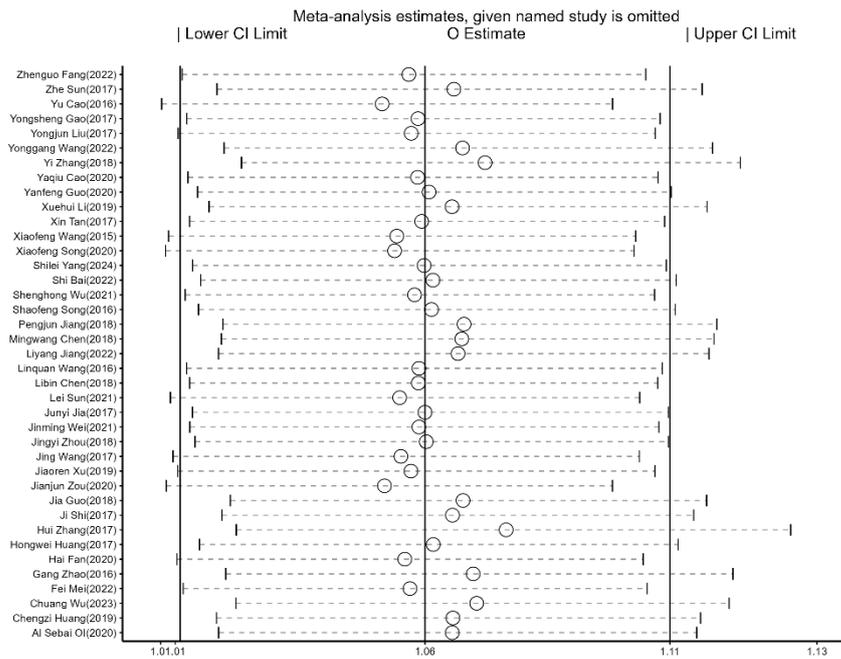


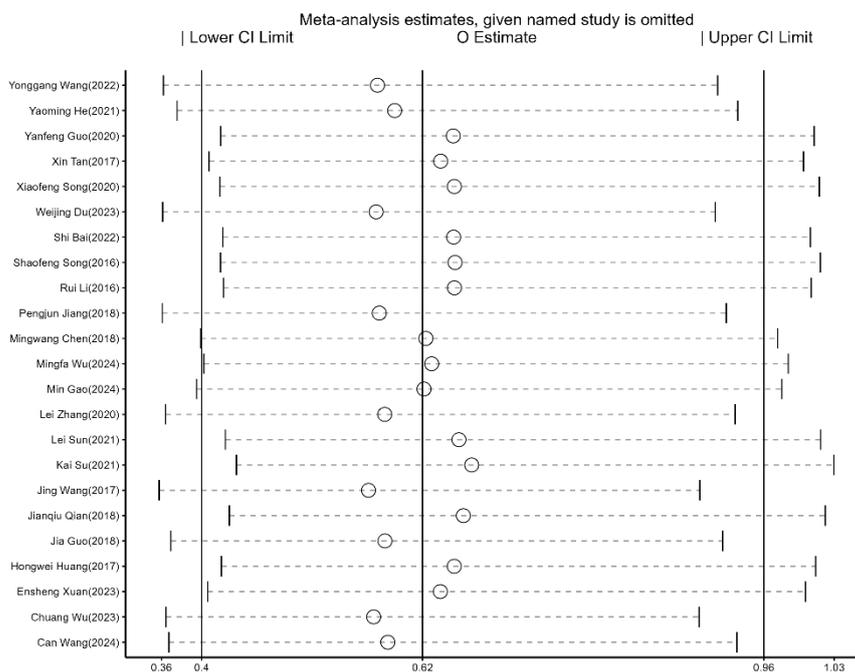
**Supplementary Figure 3 Anal function.** Forest plot of pooled mean differences in anal function scores between ligation of the intersphincteric fistula tract and conventional surgery. Negative values favor ligation of the intersphincteric fistula tract.



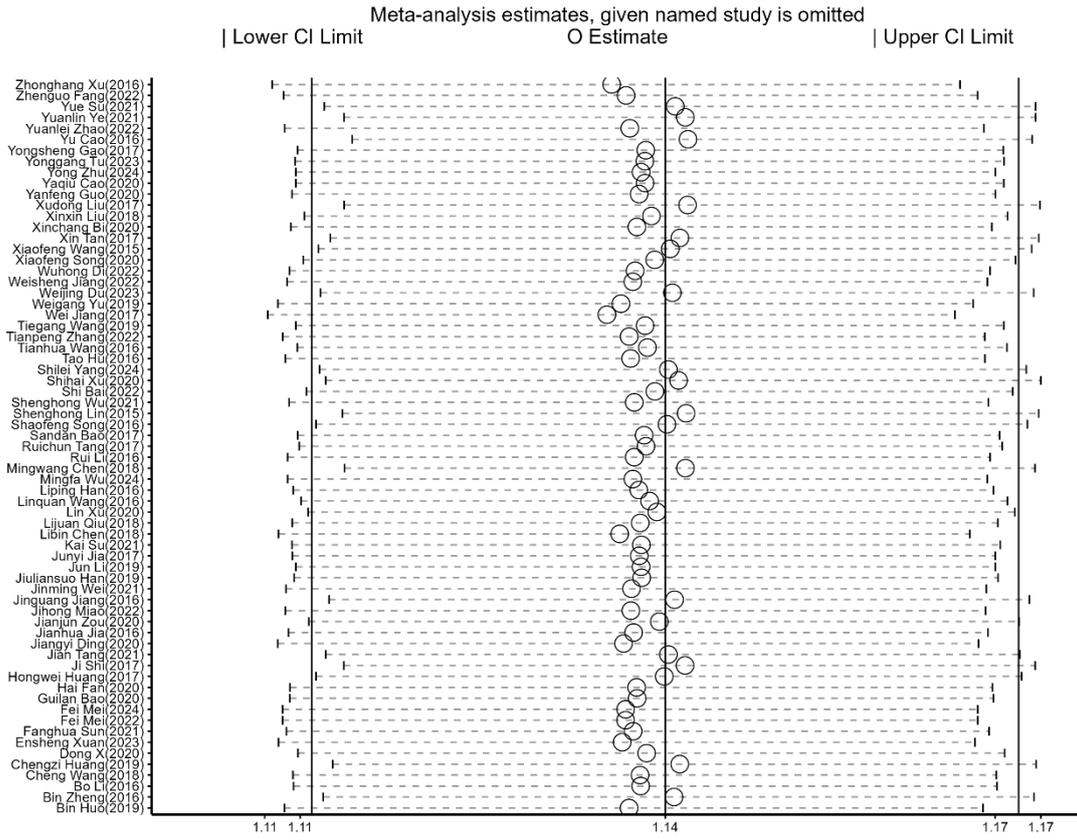
**Supplementary Figure 4 Operative time.** Forest plot of pooled mean differences in operative time (minutes) between ligation of the intersphincteric fistula tract and conventional surgery.



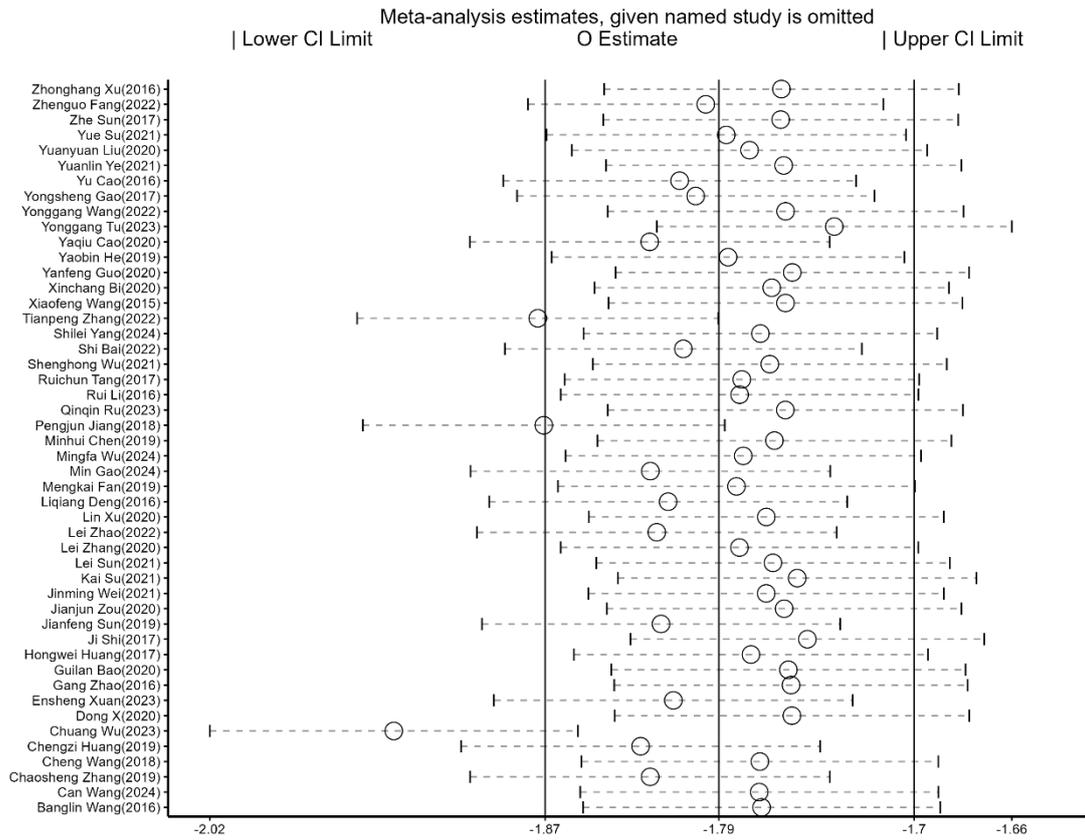
**Supplementary Figure 5 Sensitivity analysis for cure rate.** Leave-one-out analysis demonstrating stability of pooled relative risk estimates across studies.



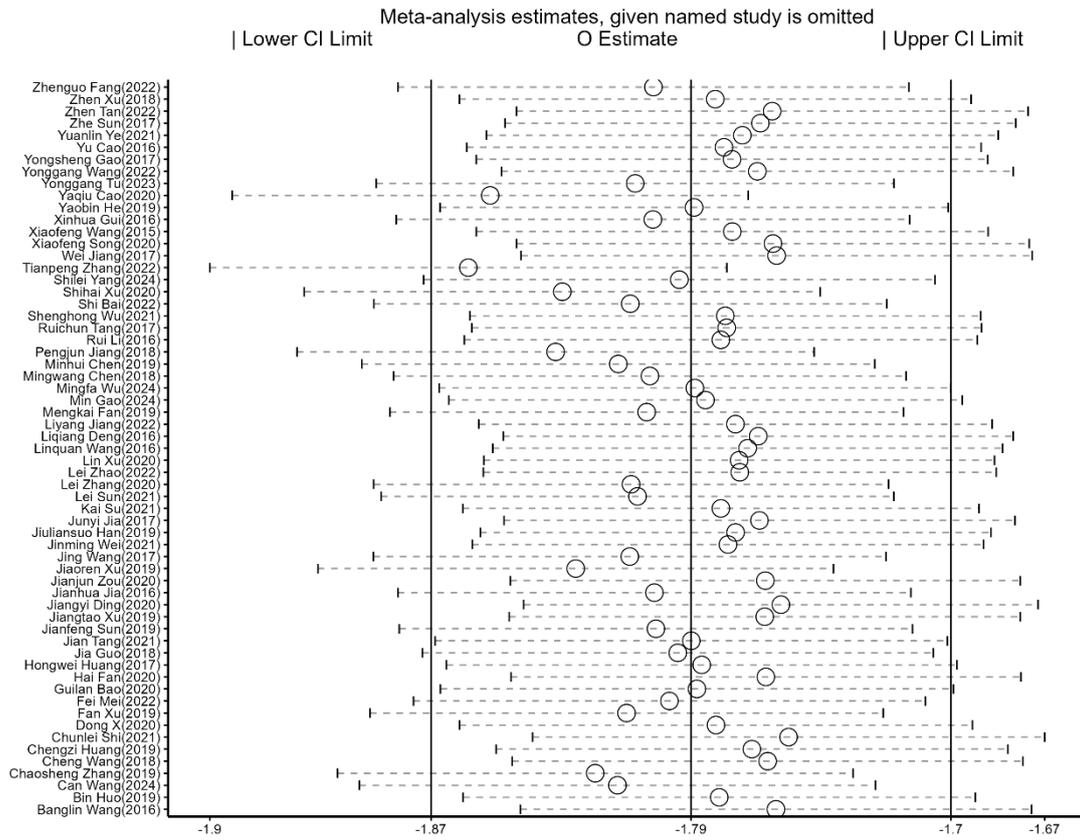
**Supplementary Figure 6 Sensitivity analysis for recurrence rate.** Sequential omission of studies showed no material change in pooled relative risk and confidence intervals.



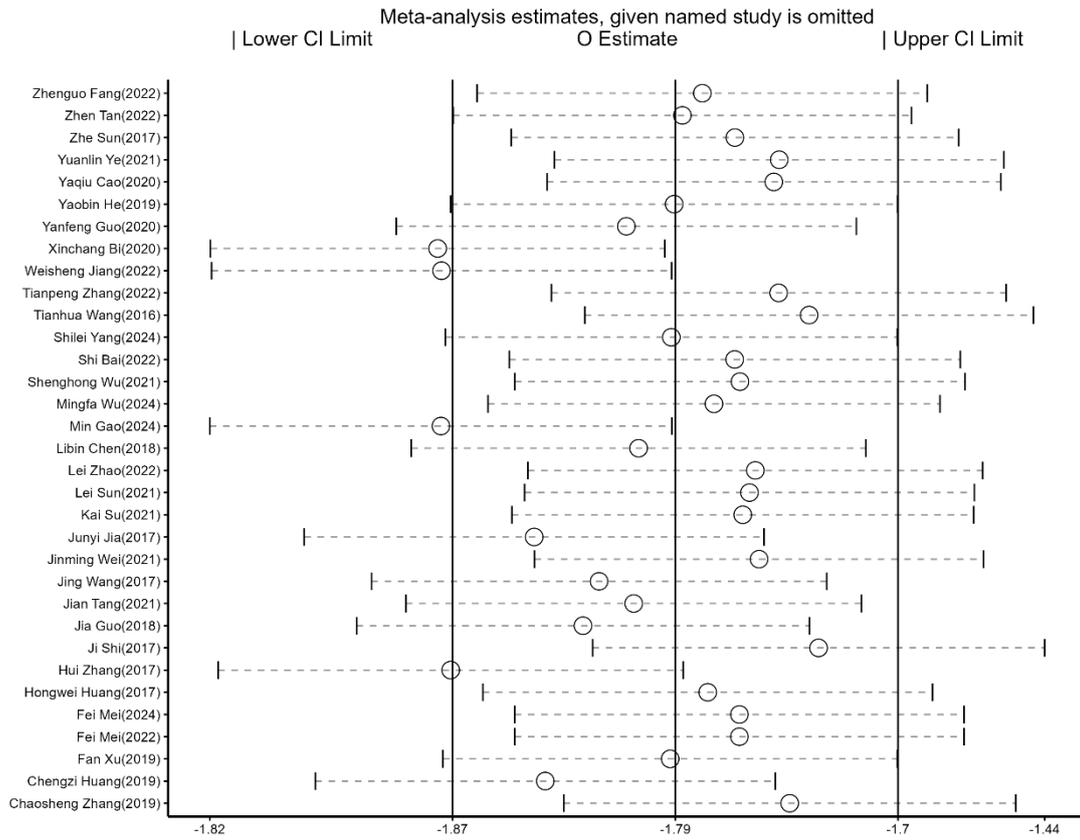
**Supplementary Figure 7 Sensitivity analysis for overall clinical effectiveness.**  
 Results remained robust across iterations.



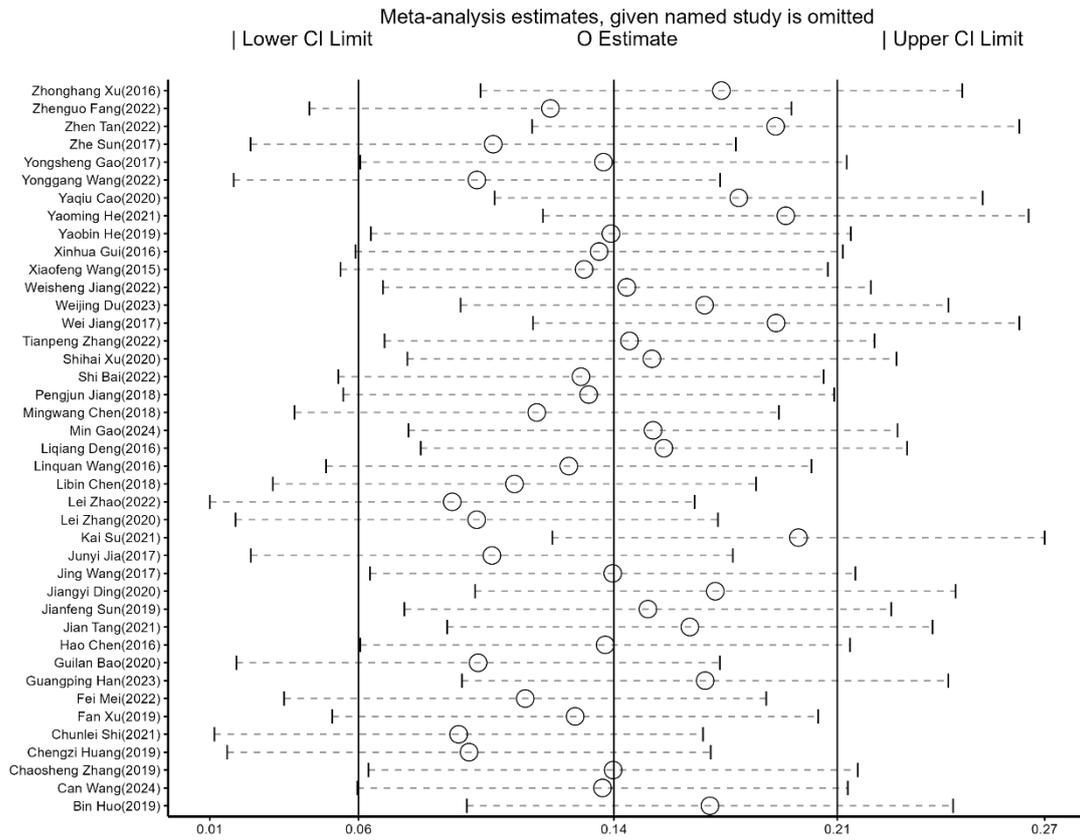
**Supplementary Figure 8 Sensitivity analysis for postoperative pain (VAS).**  
Pooled mean differences were consistent, indicating no undue influence of individual trials.



**Supplementary Figure 9 Sensitivity analysis for wound-healing time.** Leave-one-out analysis confirmed robustness of pooled mean differences.



**Supplementary Figure 10 Sensitivity analysis for anal function scores.**  
 Minimal variation was observed across iterations.



**Supplementary Figure 11 Sensitivity analysis for operative time.** Pooled mean differences were stable regardless of study exclusion.

**Supplementary Table 1 Basic characteristics of included studies**

No.	Ref.	Year	Diagnosis	LIFT group ( <i>n</i> )	Control procedure	Control group ( <i>n</i> )	Study design
1	Bai <i>et al</i> [1]	2022	High complex anal fistula	31	Cutting seton technique	31	RCT
2	Cao[2]	2020	Sphincter-involving anal fistula	50	Conventional surgery	50	RCT
3	Cao[3]	2016	Simple anal fistula	60	Conventional fistulectomy	60	RCT
4	Chen and Zhao[4]	2018	Complex anal fistula	31	Cutting seton technique	31	RCT
5	Chen <i>et al</i> [5]	2018	Low simple anal fistula	30	Fistulectomy	30	RCT
6	Gao <i>et al</i> [6]	2017	Anal fistula	36	Conventional cutting seton technique	36	RCT
7	Guo <i>et al</i> [7]	2018	Low anal fistula	20	Conventional fistulectomy	20	RCT
8	Guo and Zhang[8]	2020	Anal fistula	53	Fistulectomy	52	RCT
9	Huang <i>et al</i> [9]	2019	Low simple anal fistula	45	Fistulotomy	45	RCT
10	Huang and Chen[10]	2017	High anal fistula	20	Cutting seton technique	20	RCT
11	Jia[11]	2017	Complex anal fistula	44	Cutting seton technique	44	RCT

12	Jiang and Wang[12]	2022	Transsphincteric anal fistula (TSAF)	51	Conventional fistulotomy or fistulectomy	55	RCT
13	Jiang <i>et al</i> [13]	2018	Transsphincteric anal fistula (TSAF)	60	Fistulotomy	60	RCT
14	Li and Cheng[14]	2019	Complex anal fistula	40	Cutting seton technique	40	RCT
15	Zhang and Bai[15]	2018	simple anal fistula	208	Conventional fistulotomy or fistulectomy	208	RCT
16	Zhang <i>et al</i> [16]	2017	Low anal fistula	60	Fistulectomy	60	RCT
17	Zhou and Wang[17]	2018	High trans-sphincteric simple anal fistula	35	Cutting seton technique	38	RCT
18	Fan[18]	2020	Anal fistula	41	Conventional complete fistulectomy	41	RCT
19	Fang <i>et al</i> [19]	2022	Gland-derived transsphincteric anal fistula	20	Cutting seton technique	20	RCT
20	Liu <i>et al</i> [20]	2017	Anal fistula	40	Conventional fistulectomy with primary closure	40	RCT
21	Mei[21]	2022	Anal fistula	28	Fistulectomy	28	RCT

22	Shi and Yuan[22]	2017	Simple anal fistula	60	Conventional surgery	60	RCT
23	Song and Zhu[23]	2016	Anal fistula	40	Conventional surgery for anal fistula	40	RCT
24	Song <i>et al</i> [24]	2020	High intersphincteric anal complex fistula	60	Low fistulotomy with high seton (low-incision/high-ligation)	60	RCT
25	Sun[25]	2021	Anal fistula	32	Conventional surgery	32	RCT
26	Sun <i>et al</i> [26]	2017	Complex anal fistula	42	Conventional cutting seton technique	40	RCT
27	Wang <i>et al</i> [27]	2016	Complex anal fistula	32	Cutting seton technique	32	RCT
28	Wang[28]	2015	Complex anal fistula	40	Cutting seton technique	40	RCT
29	Wang and Sun[29]	2022	High simple anal fistula	50	Fistulotomy with seton placement	48	RCT
30	Wang <i>et al</i> [30]	2017	High trans-sphincteric simple anal fistula	30	Conventional cutting seton technique	30	RCT
31	Wei[31]	2021	Anal fistula	36	Conventional procedures	36	RCT

32	Wu <i>et al</i> [32]	2023	Transsphincteric and intersphincteric anal fistulas (TSAF/ISAF)	95	Fistulotomy with seton placement	95	RCT
33	Wu[33]	2021	Simple anal fistula	30	Conventional surgery	30	RCT
34	Xu[34]	2019	Simple transsphincteric anal fistula	49	Conventional intersphincteric fistula tract ligation	49	RCT
35	Yang[35]	2024	Low simple anal fistula	23	Fistulotomy	23	RCT
36	Zhao[36]	2016	Complex anal fistula	50	Cutting seton technique	50	RCT
37	Zou[37]	2020	Anal fistula	41	Fistulotomy with seton placement	41	RCT
38	Tan <i>et al</i> [38]	2017	Low anal fistula	34	Fistulotomy or fistulectomy	34	RCT
39	Al Sebai <i>et al</i> [39]	2020	Low anal fistula	15	Fistulotomy	15	RCT
40	He <i>et al</i> [40]	2021	Transsphincteric anal fistula (TSAF)	50	Conventional fistulectomy with seton	50	RCT
41	Li and Zhang[41]	2016	Sphincter-type anal fistula	46	Conventional surgery	51	RCT
42	Qian[42]	2018	Low simple anal fistula	46	Conventional surgery	46	RCT
43	Du and Wu[43]	2023	Anal fistula	46	Cutting seton technique	46	RCT

44	Gao[44]	2024	Simple transsphincteric anal fistula	50	Conventional surgery	50	RCT
45	Su and Wang[45]	2021	Low simple anal fistula	75	Conventional fistulectomy	75	RCT
46	Wang <i>et al</i> [46]	2024	Patients with ISAF and TSAF	58	Fistulotomy with seton placement	57	RCT
47	Wu[47]	2024	Anal fistula	30	Conventional surgery	30	RCT
48	Xuan <i>et al</i> [48]	2023	Intersphincteric and transsphincteric anal fistulas (ISAF/TSAF)	45	Fistulotomy with seton placement	45	RCT
49	Zhang <i>et al</i> [49]	2020	Complex anal fistula	46	Cutting seton technique	46	RCT
50	Bao[50]	2017	Complex anal fistula	19	Cutting seton technique	19	RCT
51	Bi[51]	2020	High anal fistula	32	Seton placement for high anal fistula	33	RCT
52	Mei[52]	2024	Anal fistula	28	Fistulectomy	28	RCT
53	Zheng <i>et al</i> [53]	2019	Complex anal fistula	41	Cutting seton technique	41	RCT
54	Zhu <i>et al</i> [54]	2024	simple sphincteric anal fistula	15	Conventional surgery	15	RCT

55	Di[55]	2022	Complex anal fistula	45	Fistulotomy for low tract combined with seton placement for high tract	41	RCT
56	Liu[56]	2020	Low anal fistula	30	Fistulotomy	30	RCT
57	Shi and Jia[57]	2021	Complex anal fistula	60	Cutting seton technique	60	RCT
58	Sun <i>et al</i> [58]	2021	High anal fistula	45	Conventional cutting seton technique	45	RCT
59	Tan <i>et al</i> [59]	2022	Complex anal fistula	52	Endorectal advancement flap (ERAF)	52	RCT
60	Tu[60]	2023	Anal fistula	73	Conventional procedures	73	RCT
61	Wang and Zhang[61]	2019	Complex anal fistula	50	Cutting seton technique	50	RCT
62	Wang <i>et al</i> [62]	2016	Sphincter-involving anal fistula	50	Conventional surgery	50	RCT
63	Wang[63]	2018	Transsphincteric anal fistula (TSAF)	45	Cutting seton technique	45	RCT
64	Zhao[64]	2022	Low simple anal fistula	50	Conventional surgery	50	RCT
65	Dong <i>et al</i> [65]	2020	Simple anal fistula	45	Excision (fistulectomy)	45	RCT
66	Bao and He[66]	2020	Complex anal fistula	42	Cutting seton technique	42	RCT

67	Ding[67]	2020	Low anal fistula	75	Conventional surgery	75	RCT
68	Han[68]	2019	Anal fistula	32	Conventional surgery	32	RCT
69	Han <i>et al</i> [69]	2016	High complex anal fistula	21	Cutting seton technique	21	RCT
70	Hu <i>et al</i> [70]	2016	Transsphincteric anal fistula (TSAF)	35	Fistulotomy	35	RCT
71	Huo[71]	2019	Simple anal fistula	39	Fistulectomy	39	RCT
72	Jia[72]	2016	Anal fistula	36	Conventional surgery	36	RCT
73	Jiang and Zhang[73]	2022	Complex anal fistula	43	Cutting seton technique	43	RCT
74	Jiang <i>et al</i> [74]	2017	Low anal fistula	50	Conventional surgery	50	RCT
75	Jiang <i>et al</i> [75]	2016	Complex anal fistula	30	Cutting seton technique	30	RCT
76	Li[76]	2016	Transsphincteric anal fistula (TSAF)	31	Traditional open cutting-seton technique	31	RCT
77	Li and Wu[77]	2019	Complex anal fistula	15	Cutting seton technique	15	RCT
78	Lin[78]	2015	high simple anal fistula	30	Fistulotomy with seton placement	30	RCT
79	Liu <i>et al</i> [79]	2018	Complex anal fistula	30	Conventional surgery	30	RCT
80	Liu[80]	2017	Simple anal fistula	46	Fistulotomy with seton placement	46	RCT
81	Miao[81]	2022	Complex anal fistula	48	Cutting seton technique	48	RCT

82	Qiu and Huang[82]	2018	High anal fistula		60	Fistulectomy		60	RCT
83	Ye[83]	2021	Transsphincteric fistula (TSAF)	anal	45	Cutting seton technique		45	RCT
84	Yu and Wang[84]	2019	Complex anal fistula		38	Cutting seton technique		38	RCT
85	Zhao and Chen[85]	2022	high simple anal fistula		40	Low-incision/high-ligation for high anal fistula		40	RCT
86	Zheng[86]	2016	Simple anal fistula		38	Fistulotomy with seton placement		38	RCT
87	Su <i>et al</i> [87]	2021	Transsphincteric fistula (TSAF)	anal	60	Cutting seton technique		60	RCT
88	Tang[88]	2021	Complex anal fistula		34	Conventional cutting seton technique		34	RCT
89	Tang and Wen[89]	2017	Transsphincteric fistula (TSAF)	anal	21	Fistulotomy		21	RCT
90	Wang <i>et al</i> [90]	2016	Transsphincteric fistula (TSAF)	anal	68	Cutting seton technique		68	RCT
91	Xu <i>et al</i> [91]	2020	Low simple anal fistula		50	Fistulectomy		50	RCT
92	Xu[92]	2020	Anal fistula		33	Conventional surgery		33	RCT

93	Xu <i>et al</i> [93]	2016	Anal fistula	40	Fistulectomy	40	RCT
94	Zhang[94]	2022	Gland-derived transsphincteric anal fistula	55	Conventional surgery	54	RCT
95	Chen <i>et al</i> [95]	2019	Complex anal fistula	33	Cutting seton technique	32	RCT
96	Deng and Zhang[96]	2016	Transsphincteric anal fistula (TSAF)	37	Conventional intersphincteric fistula tract ligation	37	RCT
97	He <i>et al</i> [97]	2019	Anal fistula	50	Conventional surgery	50	RCT
98	Fan[98]	2019	Low anal fistula	40	Fistulectomy	40	RCT
99	Ru[99]	2023	Anal fistula	43	Fistulectomy	43	RCT
100	Sun and Wang[100]	2019	Low anal fistula	38	Conventional fistulectomy	38	RCT
101	Zhang and Lin[101]	2019	Transsphincteric anal fistula (TSAF)	50	Seton technique for anal fistula	50	RCT
102	Gui[102]	2016	Low anal fistula	40	Fistulectomy	40	RCT
103	Xu[103]	2019	High complex anal fistula	33	Cutting seton technique	33	RCT
104	Xu[104]	2019	Simple transsphincteric anal fistula	47	Conventional intersphincteric fistula tract ligation	47	RCT

105	Xu[105]	2018	Anal fistula	37	Conventional cutting seton technique	37	RCT
106	Chen <i>et al</i> [106]	2016	Transsphincteric fistula (TSAF)	anal 67	Fistulotomy	45	RCT
107	Han <i>et al</i> [107]	2023	Anal fistula	40	Fistulotomy with seton placement	40	RCT

---

### References

- [1] Bai Shi, Wang Min, Chen Li. Effect of modified intersphincteric fistula tract ligation on anal function in high complex anal fistula. *China Modern Medicine*. 2022;29(18):59-61+65.
- [2] Cao Yaqui. Clinical effect analysis of modified intersphincteric fistula tract ligation in the treatment of sphincteric anal fistula. *China Modern Drug Application*. 2020;14(2):53-55.
- [3] Cao Yu. Observation on the efficacy and safety of intersphincteric fistula tract ligation in the treatment of simple anal fistula. *China Medical Guide*. 2016;14(28):163-164.
- [4] Chen Libin, Zhao Jianpei. Comparison of the efficacy of transsphincteric fistula tract ligation versus simple incision and seton drainage in patients with complex anal fistula. *Zhejiang Journal of Traumatic Surgery*. 2018;23(2):304-305.
- [5] Chen Mingwang, Gao Shuying, Luo Hongbiao, Tang Qingzhu. Evaluation of the efficacy of modified intersphincteric fistula tract ligation in the treatment of low simple anal fistula. *Journal of Xiangnan University (Medical Sciences)*. 2018;20(3):38-40.
- [6] Gao Yongsheng, Li Yan, Ren Guorong, Fu Fanian. Clinical efficacy of modified LIFT procedure in the treatment of anal fistula.

Chinese Journal of Coloproctology. 2017;37(2):22-23.

- [7] Guo Jia, He Wei, Guan Jiasheng. Observation on the efficacy of modified intersphincteric fistula tract ligation in the treatment of low anal fistula. Journal of Clinical Surgery. 2018;26(4):277-279.
- [8] Guo Yanfeng, Zhang Hongchang. Effect of intersphincteric fistula tract ligation on anal fistula and its influence on anorectal dynamics. Clinical Medicine Research and Practice. 2020;5(5):51-53.
- [9] Huang Chengzi, Li Yaling, He Bin, Wu Xiaoyan, Zheng Linzhi, He Yuzhi, Li Jun. Intersphincteric fistula tract ligation versus fistulotomy in the treatment of low simple anal fistula. Chinese Journal of Surgery of Integrated Traditional and Western Medicine. 2019;25(4):482-487.
- [10] Huang Hongwei, Chen Zhiwei. Clinical study of modified LIFT procedure in the treatment of high anal fistula. China Practical Medical. 2017;12(2):85-87.
- [11] Jia Junyi. Clinical observation of intersphincteric fistula tract ligation versus incision and seton drainage in the treatment of complex anal fistula. Journal of Colorectal & Anal Surgery. 2017;23(3):308-311.
- [12] Jiang Liyang, Wang Haibin. Observation on the efficacy of modified LIFT surgery in the treatment of transsphincteric anal fistula. Chinese Journal of Coloproctology. 2022;42(3):38-40.
- [13] Jiang Pengjun, Ma Guozhen, Liu Hengliang, Gong Yingsheng, Peng Wen. Observation of short-term and long-term anal function changes after LIFT procedure versus fistulotomy in the treatment of transsphincteric anal fistula. Chinese Journal of Colorectal Diseases (Electronic Edition). 2018;7(1):47-51.

- [14] Li Xuehui, Cheng Yongsheng. Comparison of the effects of modified intersphincteric fistula tract ligation and anal fistula incision with seton drainage in the treatment of complex anal fistula. *Medical Frontier*. 2019;9(29):91-92.
- [15] Zhang Yi, Bai Xiaogang. Comparative analysis of the efficacy of intersphincteric fistula tract ligation versus traditional anal fistula surgery in the treatment of simple anal fistula. *Journal of Aerospace Medicine*. 2018;29(9):1057-1060.
- [16] Zhang Hui, Ying Guangyao, Gao Hongdi, Zhang Shaojun, Sha Xi, Zhang Cheng, Gu Liqun, Gao Jing, Min Li, Chen Bo, Shi Li, Xiong Guohua. Clinical study of internal orifice ligation combined with modified LIFT procedure in the treatment of low anal fistula. *Chinese Journal of Emergency in Traditional Chinese Medicine*. 2017;26(2):292-294.
- [17] Zhou Jingyi, Wang Zhiliang. Clinical effect of intersphincteric fistula tract ligation in the treatment of high simple anal fistula. *Contemporary Medicine*. 2018;24(25):136-139.
- [18] Fan Hai. Analysis of the effect of fistula resection plus modified internal orifice ligation in the treatment of low anal fistula. *Diet and Health*. 2020;7(9):34.
- [19] Fang Zhenguo, He Yaobin, Zhao Xiaozhe, Yin Duoxiao. Efficacy and safety of LIFT-plug minimally invasive technique in the treatment of gland-derived transsphincteric anal fistula. *China Practical Medical*. 2022;17(14):65-67.
- [20] Liu Yongjun, Ma Li, Wu Gang, Dong Jian, Weng Wan. Observation on the efficacy of modified fistula ligation in the treatment of anal fistula. *Chinese Journal of Coloproctology*. 2017;37(3):7-9.
- [21] Mei Fei. Clinical application of anal fistulectomy versus sphincter-preserving fistula tract ligation in the treatment of anal fistula. *Asian Journal of Clinical Medicine*. 2022;5(6). DOI:10.12345/yzlcyxzz.v5i6.11895.

- [22] Shi Ji, Yuan Mei. Clinical observation of intersphincteric fistula tract ligation in the treatment of simple anal fistula. *China Health Care & Nutrition*. 2017;27(18):30.
- [23] Song Shaofeng, Zhu Lili. Feasibility and safety analysis of LIFT procedure in the treatment of anal fistula. *Contemporary Medicine*. 2016;22(14):73-74.
- [24] Song Xiaofeng, Luo Zhanbin, Sun Lixia, Zhou Xiaoyan. Observation on the efficacy of modified LIFT procedure in the treatment of 60 cases of high complex intersphincteric anal fistula. *Chinese Journal of Coloproctology*. 2020;40(12):22-24.
- [25] Sun Lei. Clinical efficacy analysis of intersphincteric fistula tract ligation in the treatment of anal fistula. *Health Home*. 2021(12):78-79.
- [26] Sun Zhe, Li Chenggang, Zhang Wenjun, Yu Dengfeng, Zhang Fujie, Cheng Weidong. Clinical study of modified intersphincteric fistula tract ligation in the treatment of complex anal fistula. *Chinese Journal of Coloproctology*. 2017;37(9):36-38.
- [27] Wang Linqun, Zhou Xudong, Zhang Yundong, Zhou Sheng. Comparative study on the efficacy of LIFT versus incision and seton drainage in the treatment of complex anal fistula. *Clinical Medicine Research and Practice*. 2016;1(18):4-5,16.
- [28] Wang Xiaofeng. Comparative observation on the efficacy of LIFT versus traditional incision and seton drainage in the treatment of complex anal fistula. *Chinese Community Doctors*. 2015(20):39-40.
- [29] Wang Yonggang, Sun Yuan. Clinical efficacy analysis of intersphincteric fistula tract ligation in the treatment of high simple anal fistula. *Chinese Journal of Current Advances in General Surgery*. 2022;25(4):311-313.
- [30] Wang Jing, Shi Rong, Huang Juan. Clinical study of intersphincteric anal fistula ligation in the treatment of high anal fistula.

China Modern Medicine. 2017;24(23):14-17.

- [31] Wei Jinming. Effect of traditional surgical method versus modified LIFT procedure on postoperative pain duration in the treatment of anal fistula. *Journal of Medical Theory and Practice*. 2021;34(11):1900-1902.
- [32] Wu Chuang, Xu Jin, Wang Qingming, Zhang Haiyan, Huang Ting, Zhu Zhimin. Clinical effect study of modified intersphincteric fistula tract ligation in the treatment of intersphincteric and transsphincteric anal fistula. *Chinese Journal of Surgery of Integrated Traditional and Western Medicine*. 2023;29(2):156-160.
- [33] Wu Shenghong. Clinical efficacy analysis of intersphincteric fistula tract ligation in the treatment of simple anal fistula. Full-text Database of Chinese Scientific Journals (Medicine and Health). 2021(12). <https://www.cqvip.com/doc/journal/2435322799>.
- [34] Xu Jiaoren. Evaluation of clinical effect and cure rate of modified intersphincteric fistula tract ligation in the treatment of simple transsphincteric anal fistula. *International Journal of Infectious Diseases (Electronic Edition)*. 2019;8(4):95-96.
- [35] Yang Shilei. Comparison of clinical efficacy between intersphincteric fistula tract ligation and traditional anal fistulotomy in the treatment of low simple anal fistula. *Electronic Journal of General Surgery*. 2024;12(1):46-49.
- [36] Zhao Gang. Clinical observation of intersphincteric fistula tract ligation in the treatment of complex anal fistula. Abstract Database of Chinese Scientific Journals (Medicine and Health). 2016(10). <https://www.cqvip.com/doc/journal/2435329704>.
- [37] Zou Jianjun. Application of intersphincteric fistula tract ligation in anal fistula surgery. *Chinese and Foreign Medical Research*. 2020;18(9):144-146.
- [38] Tan Xin, Zhou Linrong, Li Xiaohe. Observation on the effect of LIFT procedure in the treatment of low anal fistula. *Medical*

Information. 2017;30(14):78-79.

- [39] Al Sebai OI, Ammar MS, Mohamed SH, El Balshy MA. Comparative study between intersphincteric ligation of perianal fistula versus conventional fistulotomy with or without seton in the treatment of perianal fistula: A prospective randomized controlled trial. *Ann Med Surg (Lond)*. 2020;61:180-184.
- [40] He Yaoming, Wang Chengxing, Liang Weijun, Zhao Jinglin. Clinical observation of modified intersphincteric fistula tract ligation in the treatment of transsphincteric anal fistula. *Electronic Journal of General Surgery*. 2021;9(2):19-23.
- [41] Li Rui, Zhang Junqin. Effect evaluation of modified intersphincteric fistula tract ligation in the treatment of transsphincteric anal fistula. *China Practical Medical*. 2016;11(25):74-75.
- [42] Qian Jianqiu. Effect and recurrence rate evaluation of modified intersphincteric fistula tract ligation in the treatment of low simple anal fistula. *Traffic Medicine*. 2018;32(6):601-602.
- [43] Du Weijing, Wu Kangjie. Effect comparison between intersphincteric fistula tract ligation and incision with seton drainage in the treatment of anal fistula. *Contemporary Medicine Forum*. 2023;21(15):60-63.
- [44] Gao Min. Effect of modified intersphincteric fistula tract ligation on anal function and postoperative pain in patients with simple transsphincteric anal fistula. *Primary Medical Forum*. 2024;28(13):22-24,69.
- [45] Su Kai, Wang Min. Study on the effect of intersphincteric fistula tract ligation on postoperative anal sphincter function and recurrence rate in patients with low simple anal fistula. *Guizhou Medical Journal*. 2021;45(2):243-244.
- [46] Wang Can, Li Yongqi, Wang Dongfang, Zhang Tongsen, Han Haitao, Deng Feihong. Effect of modified intersphincteric fistula

tract ligation in the treatment of patients with ISAF and TSAF. *China Medical Engineering*. 2024;32(4):93-96.

- [47] Wu Mingfa. Clinical efficacy analysis of traditional anal fistula surgery versus intersphincteric fistula tract ligation. *Citation Database of Chinese Scientific Journals (Medicine and Health)*. <https://www.cqvip.com/doc/journal/3338410508>.
- [48] Xuan Ensheng, Qiu Ping, Lan Guoren, Zhong Hongtao. Clinical effect study of modified intersphincteric fistula tract ligation in the treatment of intersphincteric and transsphincteric anal fistula. *Modern Instruments and Medical Treatment*. 2023;29(4):84-87.
- [49] Zhang Lei, Tian Ying, Yu Hongshun, Yin Yi, Dong Wanqing, Li Shuju, Xue Yaohan, Wu Yongfeng. Effect of intersphincteric fistula tract ligation versus anal fistula incision with seton drainage in the treatment of complex anal fistula. *China Medical Herald*. 2020;17(17):133-136.
- [50] Bao Sandan. Discussion on the effect of anal intersphincteric fistula tract ligation in the treatment of complex anal fistula. *Electronic Journal of Clinical Medical Literature*. 2017;4(40):7768.
- [51] Bi Xinchang. Comparison of clinical efficacy between intersphincteric anal fistula ligation and seton drainage in the treatment of high anal fistula. *Chinese and Foreign Medical Research*. 2020;39(20):50-52.
- [52] Mei Fei. Observation on the efficacy of anal fistulectomy versus sphincter-preserving fistula tract ligation in the treatment of anal fistula. *Chinese Journal of Coloproctology*. 2024;44(6):32-33.
- [53] Zheng Zhijie, Ren Weitao, Wang Xiaolin. Clinical analysis of LIFT versus incision with seton drainage in the treatment of complex anal fistula. *Journal of Hubei University of Science and Technology (Medical Sciences)*. 2019;33(5):394-396.
- [54] Zhu Yong, Hu Jingzheng, Wang Yuanjun, Wen Qiaolin. Clinical efficacy of modified intersphincteric fistula tract ligation in the

treatment of simple sphincteric anal fistula and its impact on patients' quality of life. Full-text Database of Chinese Scientific Journals (Medicine and Health). <https://www.cqvip.com/doc/journal/3459504753>.

- [55] Di Wuhong. Clinical application effect and safety analysis of intersphincteric fistula tract ligation. *Doctor*. 2022;7(12):61-63.
- [56] Liu Yuanyuan. Application of intersphincteric fistula tract ligation in the treatment of low anal fistula. *Diet and Health*. 2020(48):33.
- [57] Shi Chunlei, Jia Guopu. Observation on the efficacy of intersphincteric seton drainage in the treatment of complex anal fistula and its impact on patients' quality of life. Abstract Database of Chinese Scientific Journals (Medicine and Health). 2021(12). <https://www.cqvip.com/doc/journal/2435480609>.
- [58] Sun Fanghua, Wu Ying, Zhou Hongfang, Gu Shuyu. Clinical effect analysis of modified LIFT procedure in the treatment of high anal fistula. Chinese Scientific Journal Database (Medicine). 2021(12). <https://www.cqvip.com/doc/journal/2435218731>.
- [59] Tan Zhen, Qin Pengpai, Tian Lei. Clinical efficacy of LIFT versus ERAF in the treatment of complex anal fistula and its effect on postoperative pain mediator levels. *Journal of Clinical and Experimental Medicine*. 2022;21(16):1736-1740.
- [60] Tu Yonggang. Observation on the effect of traditional surgical method versus modified LIFT procedure in the treatment of anal fistula. *Special Health*. 2023(21):125-126.
- [61] Wang Tiegang, Zhang Bo. Effect comparison between intersphincteric fistula tract ligation and incision with seton drainage in the treatment of complex anal fistula. *Contemporary Medicine Forum*. 2019;17(3):44-45.
- [62] Wang Banglin, Pan Caixia, Li Zhi, Gou Chengmin. Observation on the effect of modified intersphincteric fistula tract ligation in

the treatment of transsphincteric anal fistula. *Journal of Qiqihar Medical University*. 2016;37(31):3927-3928.

- [63] Wang Cheng. Comparison of clinical efficacy of different surgical methods in the treatment of transsphincteric anal fistula. *Clinical Medicine Practice*. 2018;27(1):42-44.
- [64] Zhao Lei. Study on the efficacy of intersphincteric fistula tract ligation versus traditional anal fistula surgery in the treatment of low simple anal fistula. *Citation Database of Chinese Scientific Journals (Medicine and Health)*. 2022(06). <https://www.cqvip.com/doc/journal/3226675579>.
- [65] Dong X, Jia Z, Yu B, Zhang X, Xu F, Tan L. Effect of intersphincteric fistula tract ligation versus anal fistulectomy on pain scores and serum levels of vascular endothelial growth factor and interleukin-2 in patients with simple anal fistulas. *J Int Med Res*. 2020;48(9):300060520949072.
- [66] Bao Guilan, He Bili Ge. Observation on the efficacy of anal intersphincteric fistula tract ligation in the treatment of complex anal fistula and its effect on anal function. *World Latest Medicine Information*. 2020;20(56):93-94.
- [67] Ding Jiangyi. Analysis and exploration of the effect of modified intersphincteric fistula tract ligation-Plug procedure in the treatment of low anal fistula patients. *Electronic Journal of Clinical Medical Literature*. 2020;7(36):43+58.
- [68] Han Jiuliansuo. Efficacy analysis of traditional anal fistula surgery versus intersphincteric fistula tract ligation. *Electronic Journal of Clinical Medical Literature*. 2019;6(60):33+36.
- [69] Han Liping, Gong Su, Yan Yonghui, Zhong Bingguang. Efficacy study of anal intersphincteric fistula tract ligation in the treatment of complex anal fistula. *Journal of Colorectal & Anal Surgery*. 2016;23(5):478-481.

- [70] Hu Tao, Zhang Sumei, Zhao Haihui. Observation on the effect of modified intersphincteric fistula tract ligation in the treatment of patients with transsphincteric anal fistula. *Psychologist*. 2016;22(31):154.
- [71] Huo Bin. Clinical observation of intersphincteric fistula tract ligation in the treatment of simple anal fistula. *Health Must-Read*. 2019(8):2.
- [72] Jia Jianhua. Analysis of the clinical efficacy of modified intersphincteric fistula tract ligation in the treatment of anal fistula. *Medical Frontier*. 2016;6(35):38.
- [73] Jiang Weisheng, Zhang Zhenhao. Effect of intersphincteric fistula tract ligation on the severity of anal incontinence in patients with complex anal fistula. *Chinese and Foreign Medical Research*. 2022;20(17):146-149.
- [74] Jiang Wei, Li Mingfeng, Li Jun. Efficacy analysis of modified intersphincteric fistula tract ligation-Plug procedure in the treatment of low anal fistula. *Contemporary Medicine*. 2017;23(14):74-76.
- [75] Jiang Jin'guang, Fang Lei, Wang Meng, Chen Juan. Clinical observation of intersphincteric fistula tract ligation versus simple incision and seton drainage in the treatment of complex anal fistula. *Journal of Colorectal & Anal Surgery*. 2016;22(6):619-624.
- [76] Li Bo. Observation on the therapeutic effect of modified intersphincteric fistula tract ligation on transsphincteric anal fistula. *Medical Frontier*. 2016;6(10):199-200.
- [77] Li Jun, Wu Xiuyi. Comparative analysis of the efficacy of intersphincteric fistula tract ligation and incision with seton drainage in the treatment of complex anal fistula. *Electronic Journal of General Stomatology*. 2019;6(35):193.
- [78] Lin Shenghong. Clinical efficacy evaluation of modified LIFT procedure in the treatment of high simple anal fistula. *Zhejiang*

Clinical Medical Journal. 2015;17(5):803-804.

- [79] Liu Xinxin, Yuan Hexue, Ceng Xiandong. Clinical experience of intersphincteric fistula tract ligation in the treatment of complex anal fistula. Chinese Journal of Practical Rural Doctors. 2018;25(8):51-54.
- [80] Liu Xudong. Application of modified intersphincteric fistula tract ligation and anal fistula incision with seton drainage in high simple anal fistula. Clinical Medicine. 2017;37(10):61-63.
- [81] Miao Jihong. Exploration of the application of modified intersphincteric fistula tract ligation in the treatment of complex anal fistula. Diet and Health. 2022(28):65-68.
- [82] Qiu Lijuan, Huang Yin. Effect study of modified intersphincteric fistula tract ligation LEFT-Plug procedure in the treatment of high anal fistula. China Medical Guide. 2018;16(34):58-59.
- [83] Ye Yuanlin. Effect of intersphincteric fistula tract ligation in the treatment of transsphincteric anal fistula. Chinese and Foreign Medical Research. 2021;40(28):41-44.
- [84] Yu Weigang, Wang Zhigang. Analysis of the therapeutic effect of anal intersphincteric fistula tract ligation on complex anal fistula. China Medical Guide. 2019;17(12):103-104.
- [85] Zhao Yuanlei, Chen Junyu. Clinical efficacy and safety analysis of intersphincteric fistula tract ligation in the treatment of high simple anal fistula. Systems Medicine. 2022;7(10):108-111,116.
- [86] Zheng Bin. Clinical observation of intersphincteric fistula tract ligation in the treatment of simple anal fistula. Medical Information. 2016;29(32):187-188.

- [87] Su Yue, Zhang Yuru, Zhao Tuanjie, Liu Liancheng, Ren Chuncheng, Huang Bin, Wang Min, Zhang Zhiliang, Han Xu. Efficacy comparison of modified intersphincteric fistula tract ligation (LIFT-plug) versus traditional incision with seton drainage in the treatment of transsphincteric anal fistula. *Journal of Colorectal & Anal Surgery*. 2021;27(2):133-136.
- [88] Tang Jian. Analysis of the efficacy and clinical value of anal intersphincteric fistula tract ligation for complex anal fistula. Full-text Database of Chinese Scientific Journals (Medicine and Health). 2021(11). <https://www.cqvip.com/doc/journal/2435285494>.
- [89] Tang Ruichun, Wen Yuan. Observation of modified intersphincteric fistula tract ligation in the treatment of transsphincteric anal fistula. *Electronic Journal of Clinical Medical Literature*. 2017;4(86):16883.
- [90] Wang Tianhua, Zhang Jianping, Dai Chengan, Gao Manhong, Liu Guohong. Discussion on the application value of modified intersphincteric fistula tract ligation in the treatment of transsphincteric anal fistula. *Contemporary Medicine*. 2016;22(32):77-78.
- [91] Xu Shihai, Li Yongbin, Yang Wenjuan, Wu Chao, A Man Ni Sha Ai. Effect of LIFT-Plug procedure in the treatment of low simple anal fistula. *Medical Information*. 2020;33(3):111-112.
- [92] Xu Lin. Clinical efficacy study of intersphincteric fistula tract ligation in the treatment of anal fistula. *Health Guide*. 2020(45):19.
- [93] Xu Zhonghang, Lu Guiming, Xu Xianghua, Zhou Zhulan, Zhu Jianfeng. Comparison of the efficacy between intersphincteric fistula tract ligation and fistulectomy in the treatment of anal fistula. *Journal of Colorectal & Anal Surgery*. 2016;22(6):597-600.
- [94] Zhang Tianpeng. Effect and safety study of LIFT-plug minimally invasive technique in the treatment of gland-derived transsphincteric anal fistula. Full-text Database of Chinese Scientific Journals (Medicine and Health). 2022(09). <https://www.cqvip.com/doc/journal/3227223096>.

- [95] Chen Minhui, Wu Kangrui, Wu Zhihui. Efficacy evaluation of LIFT versus incision with seton drainage in the treatment of complex anal fistula. *China Practical Medical*. 2019;14(2):27-29.
- [96] Deng Liqiang, Zhang Wei. Clinical application of modified anal fistula ligation. *Practical Clinical Journal of Integrated Traditional Chinese and Western Medicine*. 2016;16(6):27-28.
- [97] He Yaobin, Fang Zhenguo, Ji Ying, Zhao Xiaozhe. Clinical research of LIFT-plug minimally invasive technique in the treatment of anal fistula. *Modern Diagnosis & Treatment*. 2019;30(1):21-22.
- [98] Fan Mengkai. Efficacy analysis of intersphincteric fistula tract ligation in the treatment of low anal fistula. *Electronic Journal of Clinical Medical Literature*. 2019;6(66):88.
- [99] Ru Qinqin. Comparison of the effects between fistulectomy and intersphincteric fistula tract ligation in the treatment of anal fistula patients. *Maternal & Child World*. 2023(17):37-39.
- [100] Sun Jianfeng, Wang Xiaodong. Clinical effect of modified intersphincteric fistula tract ligation-Plug procedure in the treatment of low anal fistula. *Doctor*. 2019;4(2):38-39.
- [101] Zhang Chaosheng, Lin Lizhu. Comparison of clinical effects of different surgical methods in the treatment of transsphincteric anal fistula. *Chinese and Foreign Medical Research*. 2019;17(1):139-140.
- [102] Gui Xinhua. Feasibility study of modified intersphincteric fistula tract ligation-Plug procedure in the treatment of low anal fistula. *Primary Medical Forum*. 2016;20(35):4932-4933.
- [103] Xu Fan. Efficacy analysis of intersphincteric fistula tract ligation in the treatment of high complex anal fistula. *Chinese Journal*

of Burns and Wounds. 2019;31(6):434-437.

- [104] Xu Jiangtao. Clinical observation of modified intersphincteric fistula tract ligation in the treatment of simple transsphincteric anal fistula. Primary Medical Forum. 2019;23(22):3171-3172.
- [105] Xu Zhen. Comparison of efficacy and anal function changes after two surgical procedures for anal fistula. Electronic Journal of Clinical Medical Literature. 2018;5(39):74.
- [106] Chen Hao, Yang Bailin, Yang Guang, Jin Chunmin, Zhang Bei, Wu Kunlan, Chen Hongjin, Sun Shangying, Jin Heiying. Multicenter prospective study of intersphincteric fistula tract ligation in the treatment of transsphincteric anal fistula. Chinese Journal of Digestive Surgery. 2016;15(8):825-829.
- [107] Han Guangping, Zhao Jian, Chen Lihan. Clinical efficacy of anal fistula incision with seton drainage versus intersphincteric fistula tract ligation in the treatment of anal fistula. Systems Medicine. 2023;8(23):123-126.

**Supplementary Table 2 Subgroup analyses of ligation of the intersphincteric fistula tract *vs* conventional surgery for anal fistula**

<b>Outcome</b>	<b>Subgroup</b>	<b>Studies (<i>n</i>)</b>	<b>Effect Size (RR/MD)</b>	<b>95%CI</b>	<b><i>P</i> value</b>	<b><i>I</i><sup>2</sup> (%)</b>
Cure rate	By position					
	High-position	7	RR = 1.14	1.01-1.29	0.040	43.8
	Low-position	9	RR = 1.04	0.92-1.18	0.540	72.8
	Other/unspecified	23	RR = 1.08	1.01-1.15	0.028	57.0
	By complexity					
	Complex	9	RR = 1.08	0.99-1.18	0.069	46.1
	Simple	13	RR = 1.01	0.93-1.09	0.877	60.8
	Other/unspecified	17	RR = 1.16	1.04-1.29	0.007	65.1
Recurrence rate	By position					
	High-position	6	RR = 0.55	0.22-1.38	0.202	71.3
	Low-position	5	RR = 0.34	0.10-1.12	0.076	43.5
	Other/unspecified	12	RR = 0.79	0.46-1.36	0.392	40.4
	By complexity					
	Complex	4	RR = 0.44	0.17-1.16	0.096	44.1
	Simple	7	RR = 0.54	0.19-1.48	0.231	56.8
	Other/unspecified	12	RR = 0.73	0.41-1.32	0.300	54.4
Complication rate	By position					
	High-position	4	RR = 0.30	0.16-0.60	< 0.001	0.0
	Low-position	6	RR = 0.21	0.11-0.38	< 0.001	0.0
	Other/unspecified	21	RR = 0.26	0.19-0.34	< 0.001	0.0
	By complexity					
	Complex	10	RR = 0.35	0.25-0.49	< 0.001	0.0
	Simple	5	RR = 0.18	0.08-0.39	< 0.001	0.0
	Other/unspecified	16	RR = 0.20	0.14-0.29	< 0.001	0.0
VAS	By position					

		High-position	6	MD = -2.36	-3.68 to -1.05	< 0.001	98.6
		Low-position	9	MD = -1.49	-2.11 to -0.88	< 0.001	96.3
		Other/unspecified	33	MD = -1.66	-2.14 to -1.19	< 0.001	99.9
		By complexity					
		Complex	8	MD = -2.86	-4.04 to -1.68	< 0.001	98.4
		Simple	11	MD = -0.79	-1.73 to -0.15	0.100	99.9
		Other/unspecified	29	MD = -1.76	-2.04 to -1.48	< 0.001	96.9
Healing	time	By position					
(days)		High-position	7	MD = -8.46	-11.28 to -5.63	< 0.001	90.7
		Low-position	15	MD = -6.73	-8.80 to -4.65	< 0.001	98.2
		Other/unspecified	39	MD = -9.12	-10.87 to -7.37	< 0.001	98.6
		By complexity					
		Complex	13	MD = -10.62	-14.18 to -7.06	< 0.001	97.8
		Simple	14	MD = -8.25	-10.50 to -6.00	< 0.001	96.1
		Other/unspecified	34	MD = -7.66	-9.23 to -6.10	< 0.001	98.5
Anal	function	By position					
(score)		High-position	5	MD = -0.76	-2.29 to 0.76	0.326	97.8
		Low-position	6	MD = -0.91	-1.53 to -0.29	0.004	98.3
		Other/unspecified	22	MD = -1.65	-2.34 to -0.95	< 0.001	99.6
		By complexity					
		Complex	8	MD = -1.03	-1.84 to -0.22	0.012	99.8
		Simple	8	MD = -2.05	-3.21 to -0.89	0.001	98.8
		Other/unspecified	17	MD = -1.21	-2.02 to -0.41	0.003	99.2
Operative	time	By position					
(minutes)		High-position	5	MD = 5.82	1.30 to 10.35	0.012	89.3
		Low-position	9	MD = -0.80	-8.63 to 7.03	0.842	99.8
		Other/unspecified	27	MD = 4.88	-1.11 to 10.87	0.110	99.0
		By complexity					
		Complex	13	MD = 11.29	1.23-21.35	0.028	99.1

		Simple	9	MD = 3.96	-1.08 to 9.00	0.123	98.4
		Other/unspecified	19	MD = -2.01	-6.63 to 2.62	0.395	99.3
Overall	clinical	By position					
effectiveness		High-position	11	RR = 1.12	1.05-1.19	< 0.001	51.2
		Low-position	12	RR = 1.11	1.05-1.17	< 0.001	56.8
		Other/unspecified	44	RR = 1.16	1.12-1.20	< 0.001	43.4
		By complexity					
		Complex	19	RR = 1.18	1.13-1.23	< 0.001	9.0
		Simple	16	RR = 1.06	1.01-1.11	0.020	58.0
		Other/unspecified	32	RR = 1.19	1.16-1.22	< 0.001	15.5

---