

Table 1. Characteristics of Included Studies in remimazolam_vs_propofol comparison.

Study	Multi/single-centre RCT	Sample size,n,total	Age,(yr),mean/medium		BMI (kg/m ²),mean/medium		ASA range	Procedure
			remi_ages	pro_ages	BMI(remi)	BMI(pro)		
seohee et al.2024	single	53	66	58	24.6	26.1	NA	radiofrequency catheter ablation of atrial fibrillation
Y.Y.Mao et al.2022	single	128	52.5	50	25.2	23.7	I - III	urologic surgery
jiwon lee et al.2024	single	72	54.2	50.3	NA	NA	I - III	spine surgery
Q.Kuang et al.2023	single	84	65.4	65.2	22.4	22.3	I - II	Pulmonary Lobectomy
wenchen luo et al.2023	single	76	44.7	44.3	23.3	23.2	I - II	day surgery(multiple)
yaqi huang et al.2023	single	120	62.6	63.8	24.3	24.8	II - III	breast cancer
Yafei Pan et al.2023	single	30	61.13	60.13	20.08	21.73	II - IV	Rigid Bronchoscopy
Taichi Kotani et al.2024	single	34	82.7	84.7	NA	NA	NA	aortic valve replacement
Zhuxin Luo et al.2024	single	112	42.8	43	23.9	23.9	I - II	laparoscopic cholecystectomy
Junbao Zhang et al.2022	single	59	74.31	75.04	24.07	23.99	II - III	hip replacement
Jinjuan Duan et al.2024	single	60	67.8	68.7	22.9	23.3	I - III	Hip Replacement
Junbao Zhang et al.2024	single	129	56.6	56	24.2	24.5	I - III	cerebral endovascular procedures
Pan-Pan Fang et al.2024	Multi	728	73	73	22.25	22.81	I - III	hip surgery
Lijuan Zhang et al.2024	single	128	49.08	47.63	24.23	23.73	I - II	day surgery(multiple)
Tianlin Liu et al.2024	single	100	71.62	71.4	23.109	23.953	I - III	Radical Resection of Colon Cancer
Yeong-Gwan Jeon et al.2021	single	122	70.9	71.5	NA	NA	I - III	laparoscopic cholecystectomy or transurethral resection of bladder tumors

Abbreviations: Remi, remimazolam; Prop, propofol; ASA, American Society of Anesthesiologists physical status classification; NA, not applicable
Note: Age and BMI values are presented as reported in original studies

Table 2. Characteristics of Included Studies in remimazolam_vs_dexmedetomidine comparison.

Study	Multi/single-centre RCT	Sample size,n,total	Age,(yr),mean/medium		BMI (kg/m ²),mean/medium		ASA range	Procedure
			remi_ages	dex_ages	BMI(remi)	BMI(dex)		
Qiumiao Chen et al.2024	single	60	43.33	48.97	21.63	21.66	I - III	Maxillofacial surgery
Xingfang Chen et al.2022	single	146	57.05	56.05	24.58	25.11	I - II	Bronchoscopy
Laiying Zhou et al.2024	single	363	60	61	22.6	22.24	I - III	Bronchoscopy
Huiying Xu et al.2024	single	120	60.7	60.9	24.1	24.5	I - II	Bronchoscopy
Yang Deng et al.2022	single	75	81.5	82.3	NA	NA	NA	Post-delirium or post-agitation sedation
Sangho Lee et al.2023	single	78	60	58	23.6	23.9	I - III	Procedural sedation for regional anesthesia
Seung-Wan Hong et al.2024	single	70	38	39	NA	NA	NA	Sedation in spinal anaesthesia
Yong Qing Liao et al.2023	single	69	70.12	71.26	21.74	21.46	II - III	laparoscopic radical resection of gastric cancer
Hansol Kim et al.2023	single	103	52	54	24.9	26.1	I - II	Sedation in spinal anaesthesia

Abbreviations: Remi, remimazolam; Dex, dexmedetomidine; ASA, American Society of Anesthesiologists physical status classification; NA, not applicable
Note: Age and BMI values are presented as reported in original studies