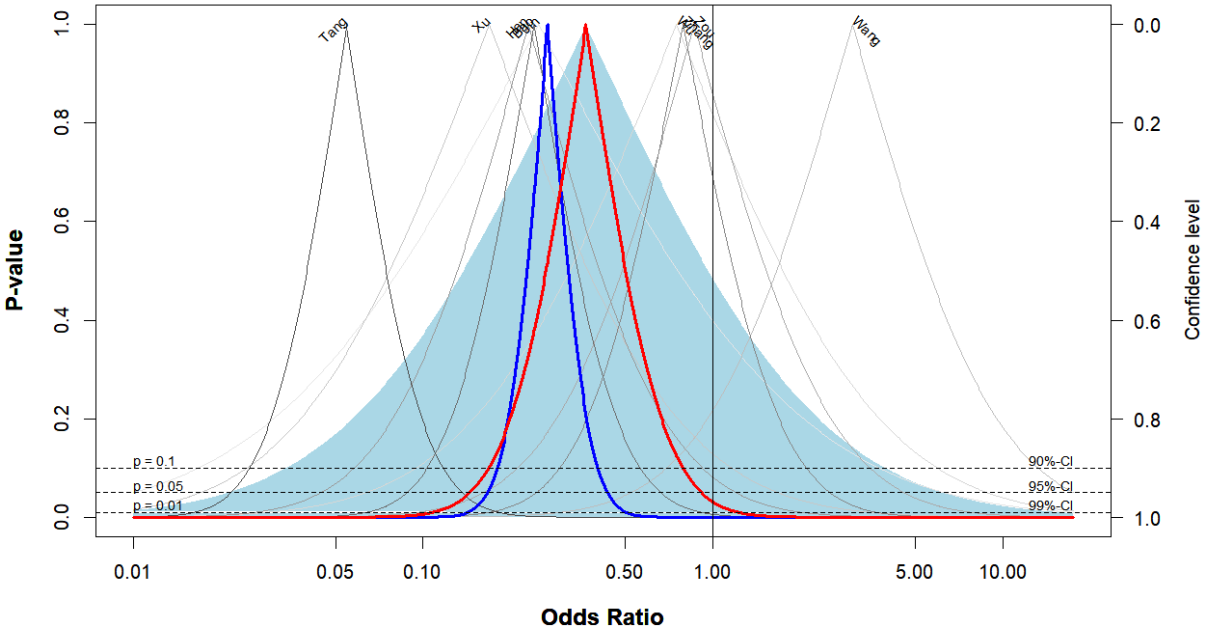
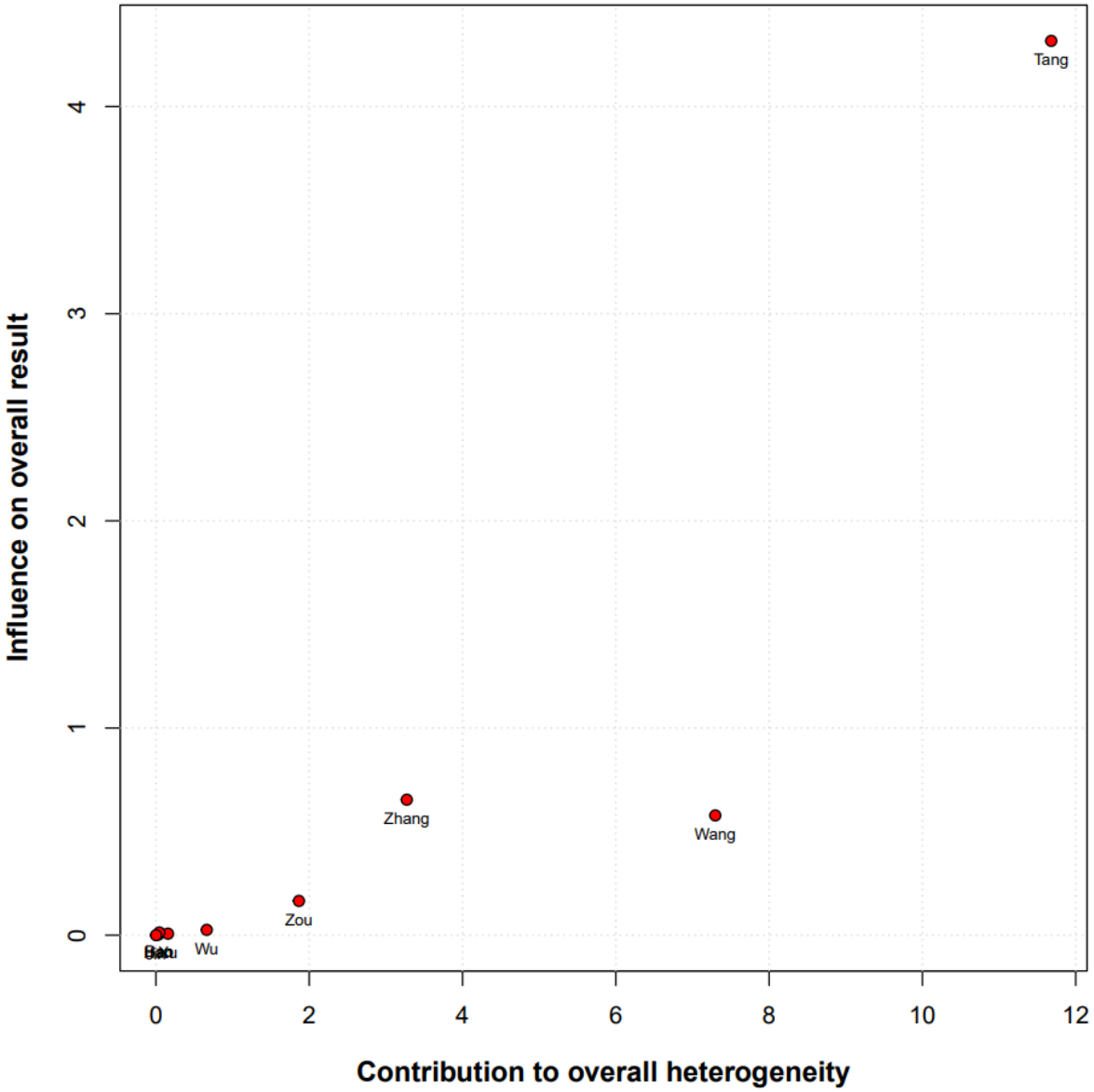
Supplementary Figures

a) Mortality

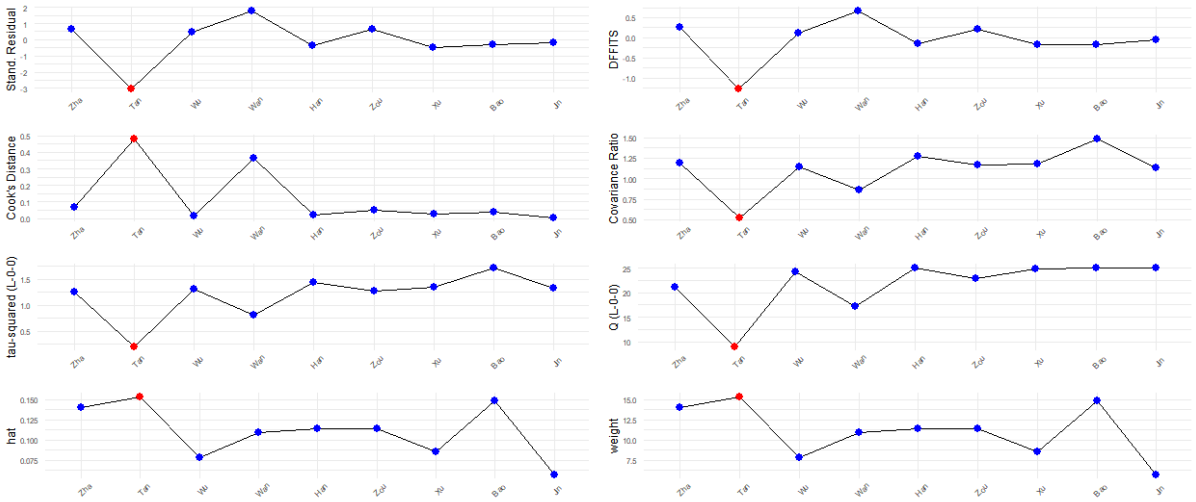
SFigure 1: Mortality drapery plot



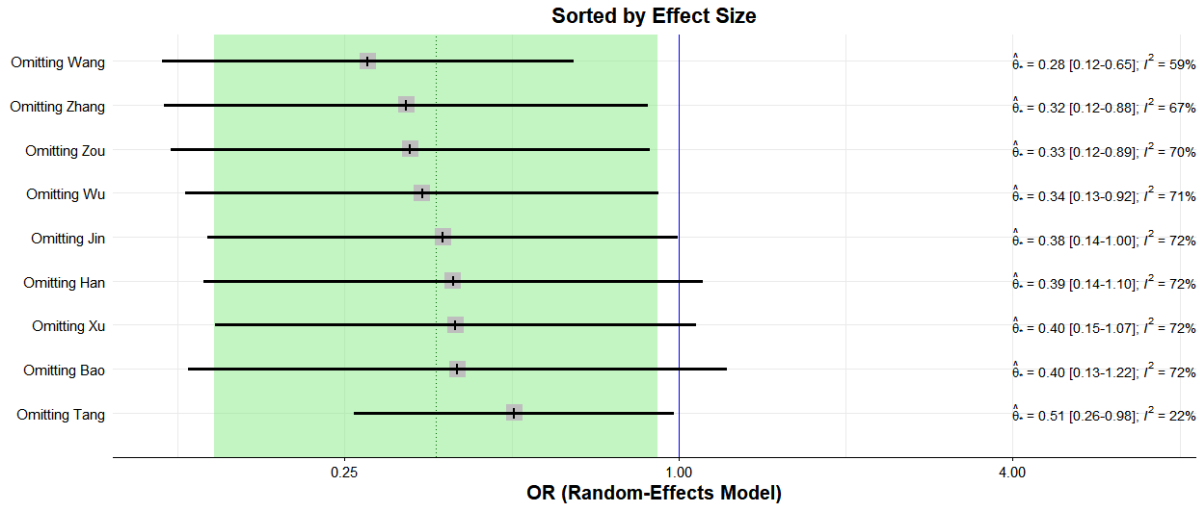
SFigure 2: Baujat plot for mortality



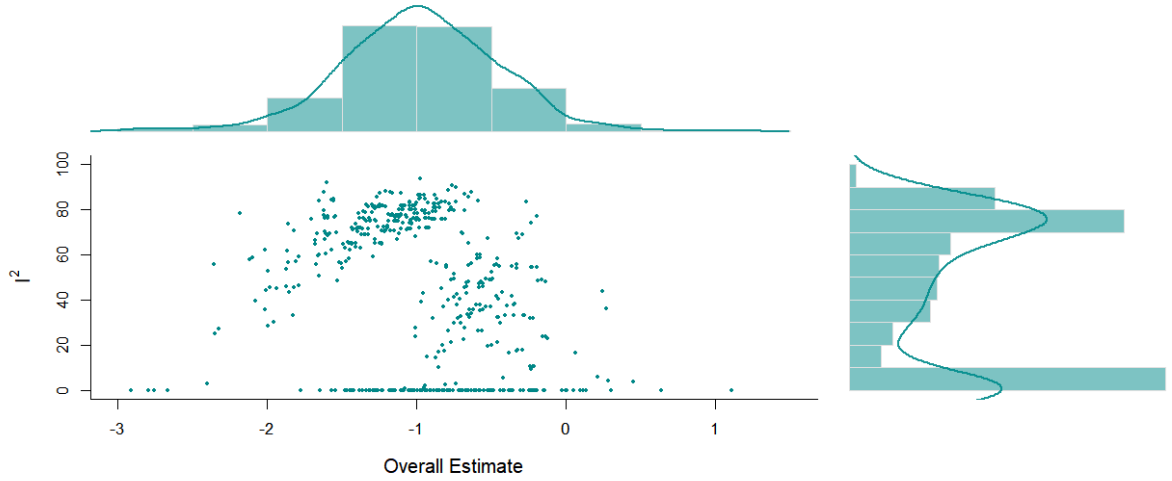
SFigure 3: Mortality ID



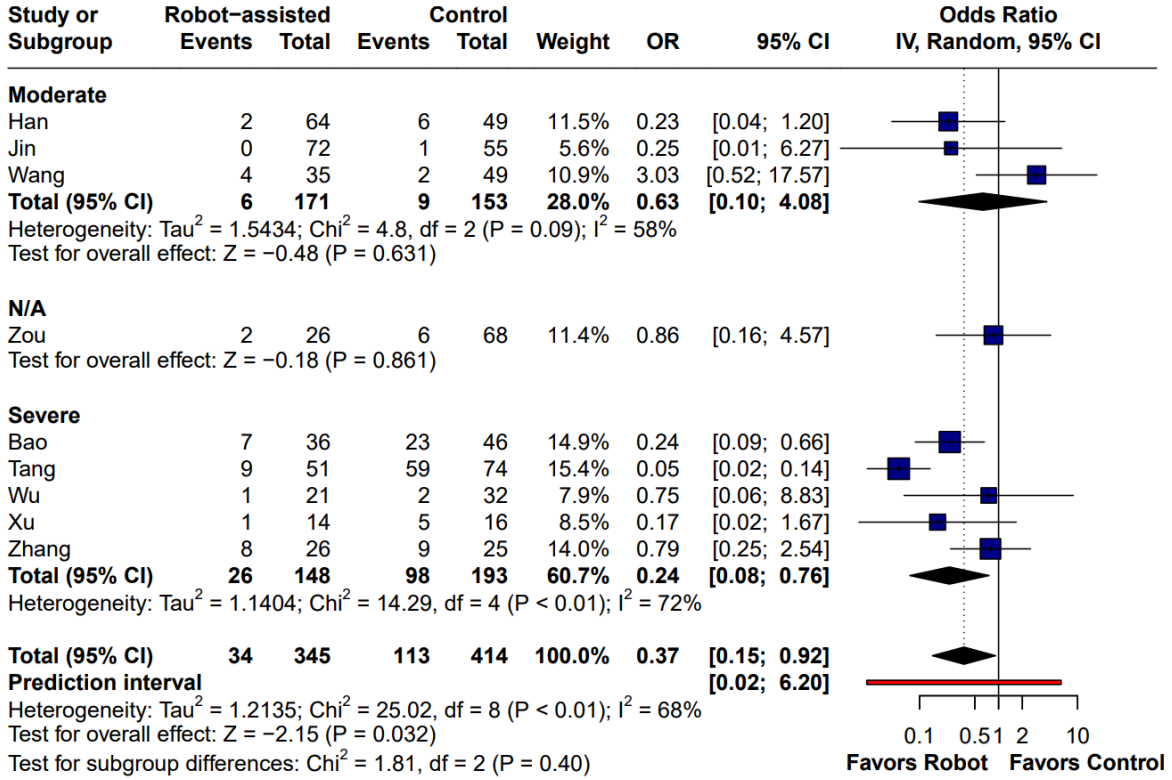
SFigure 4: Leave-one out mortality



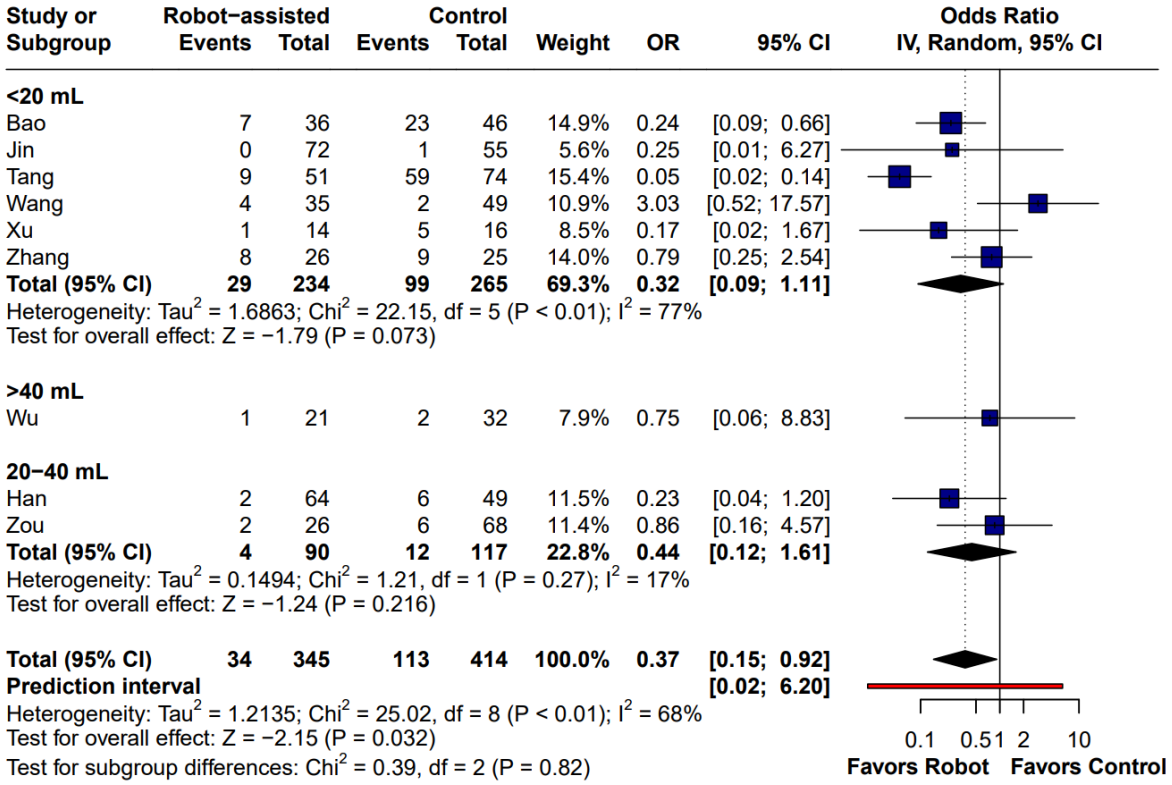
SFigure 5: GOSH mortality



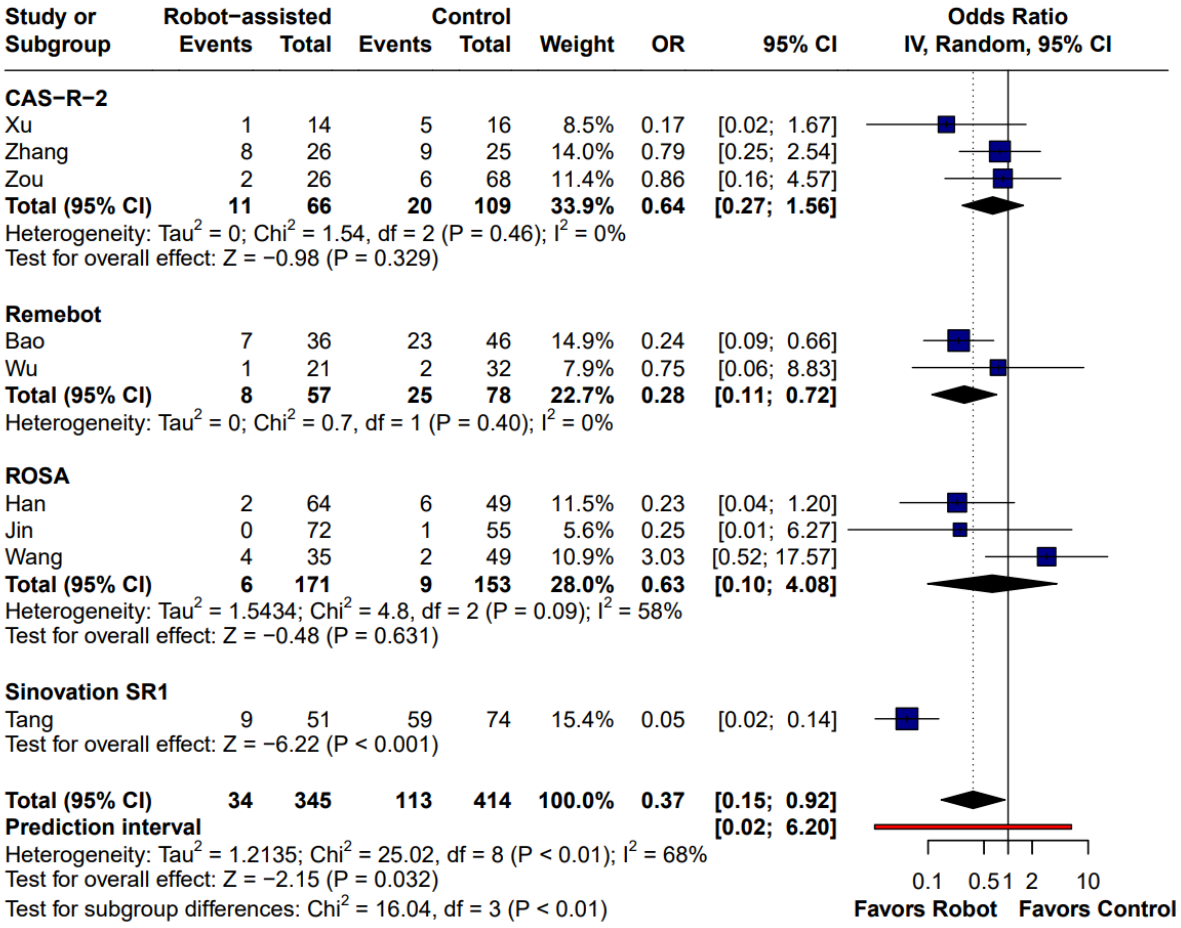
SFigure 6: GCS mortality



SFigure 7: Hematoma volume mortality

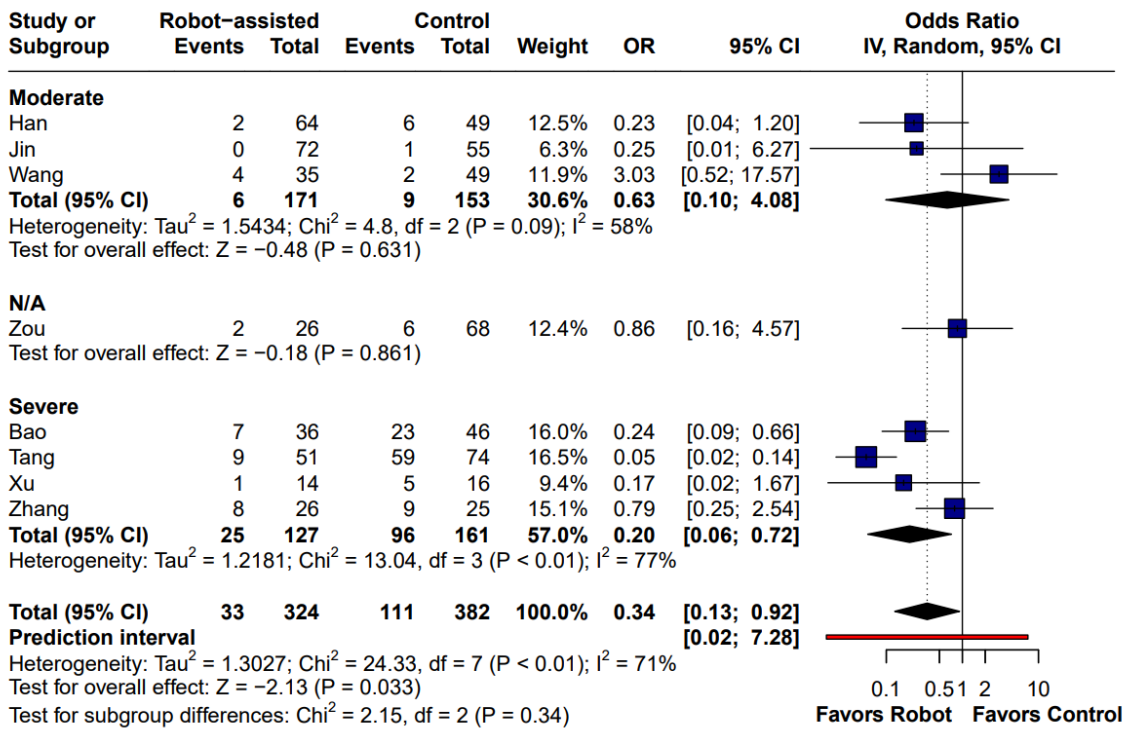


SFigure 8: Robot model mortality

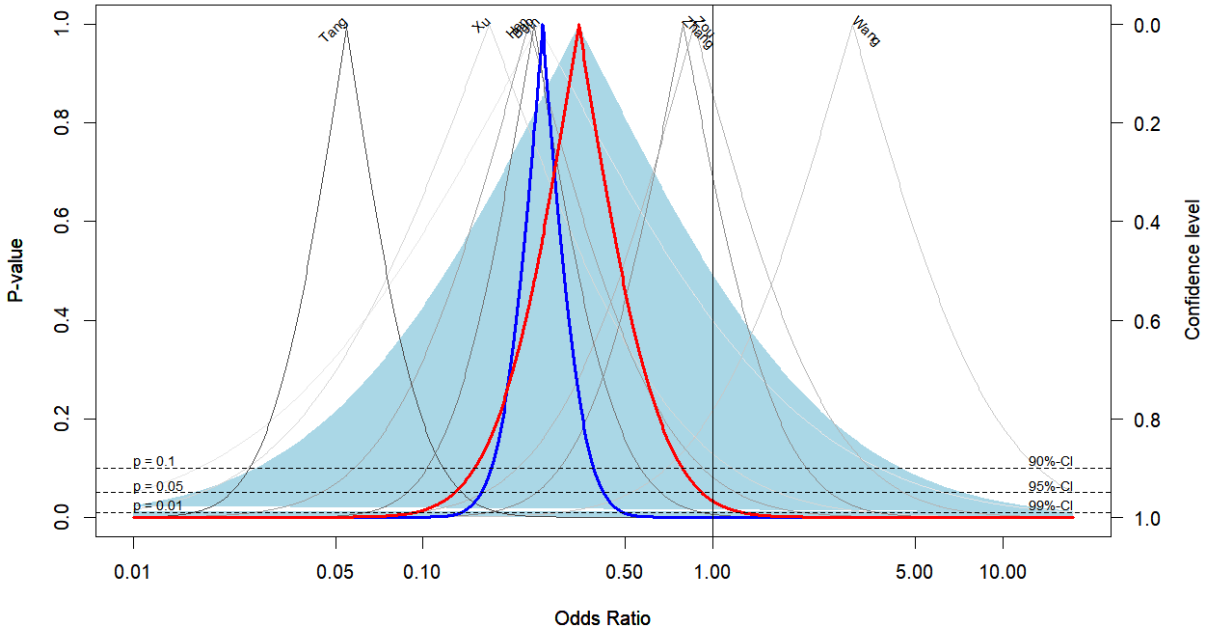


b) Mortality PR (Puncture-Robots only) sensitivity analysis

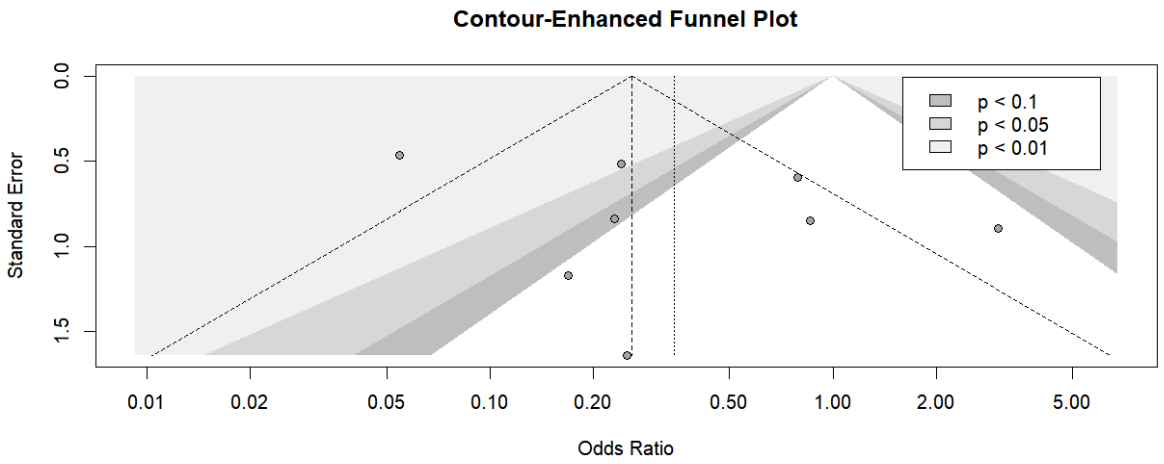
SFigure 9: GCS PR mortality



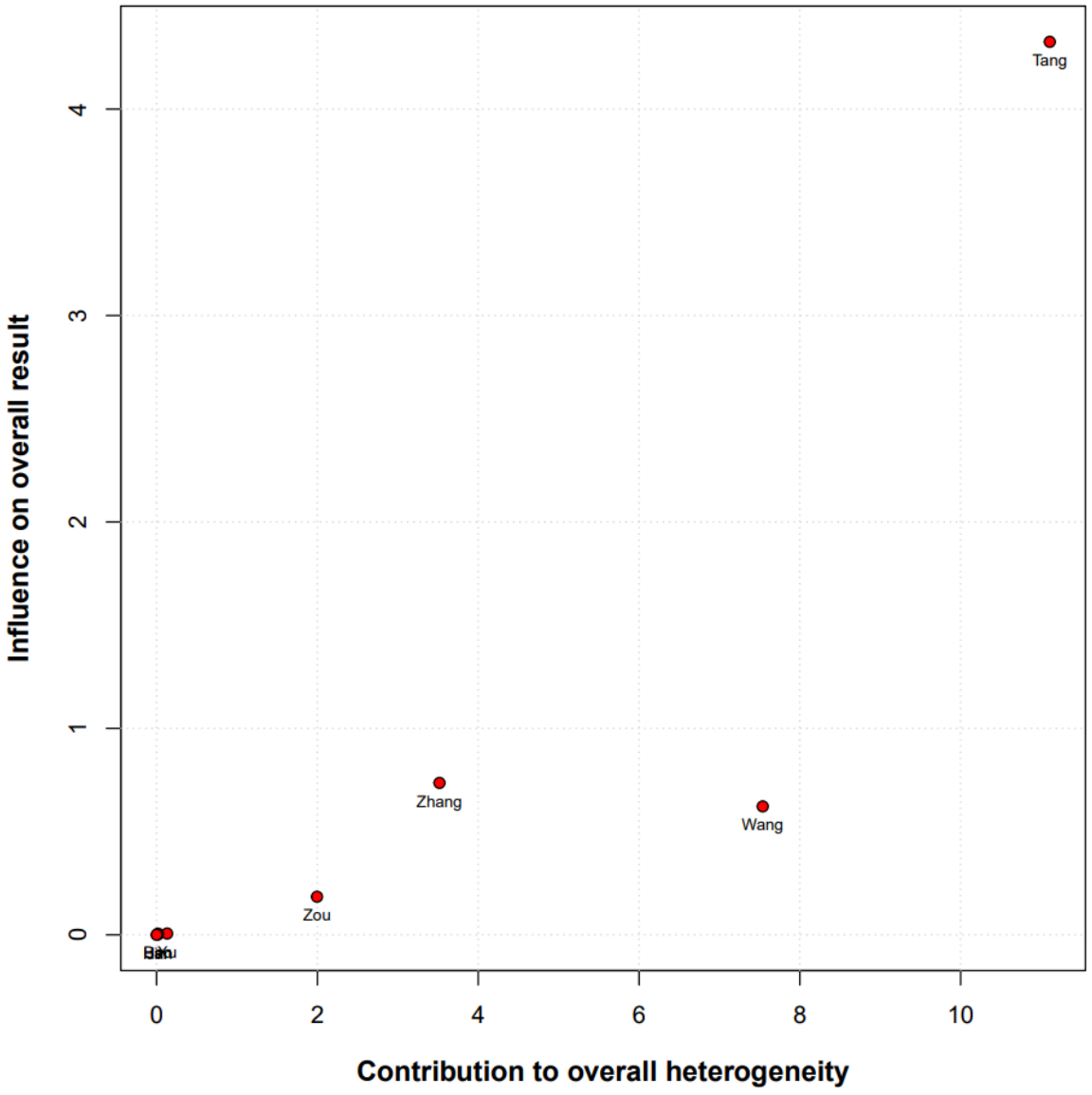
SFigure 10: PR Mortality drapery plot



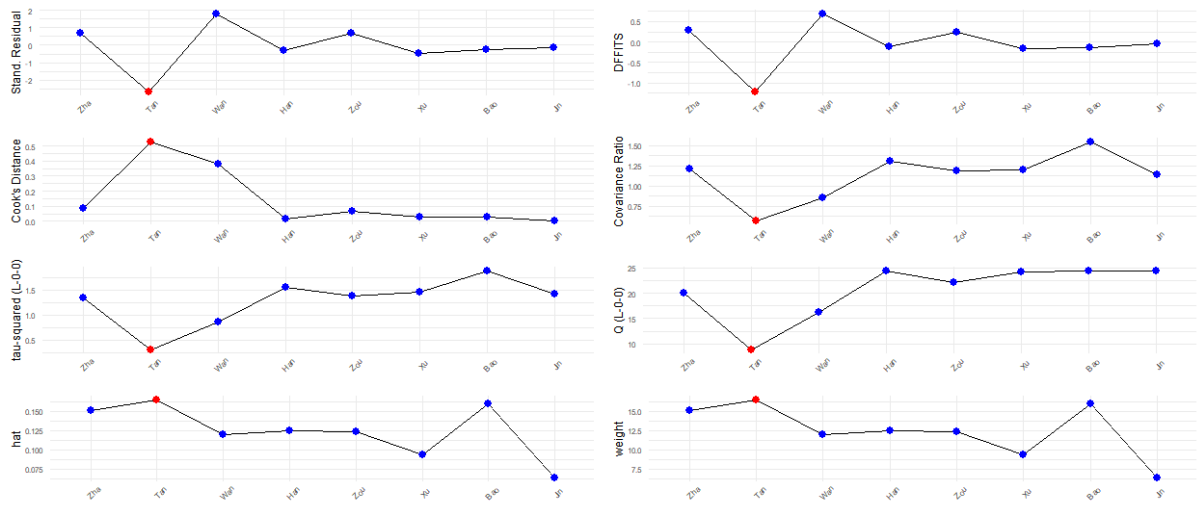
SFigure 11: PR mortality funnel plot



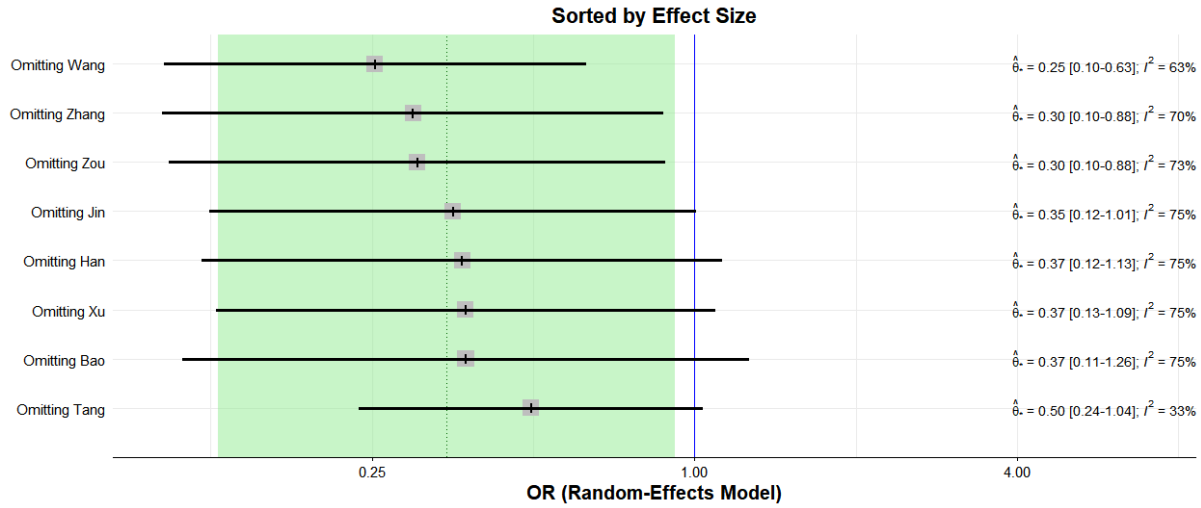
SFigure 12: Baujat plot for PR mortality



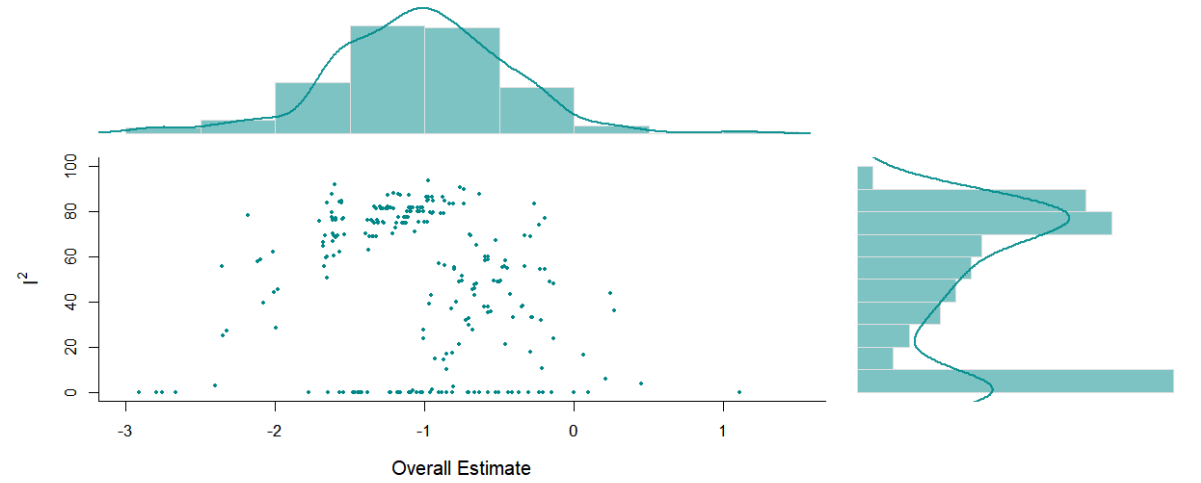
SFigure 13: PR mortality ID



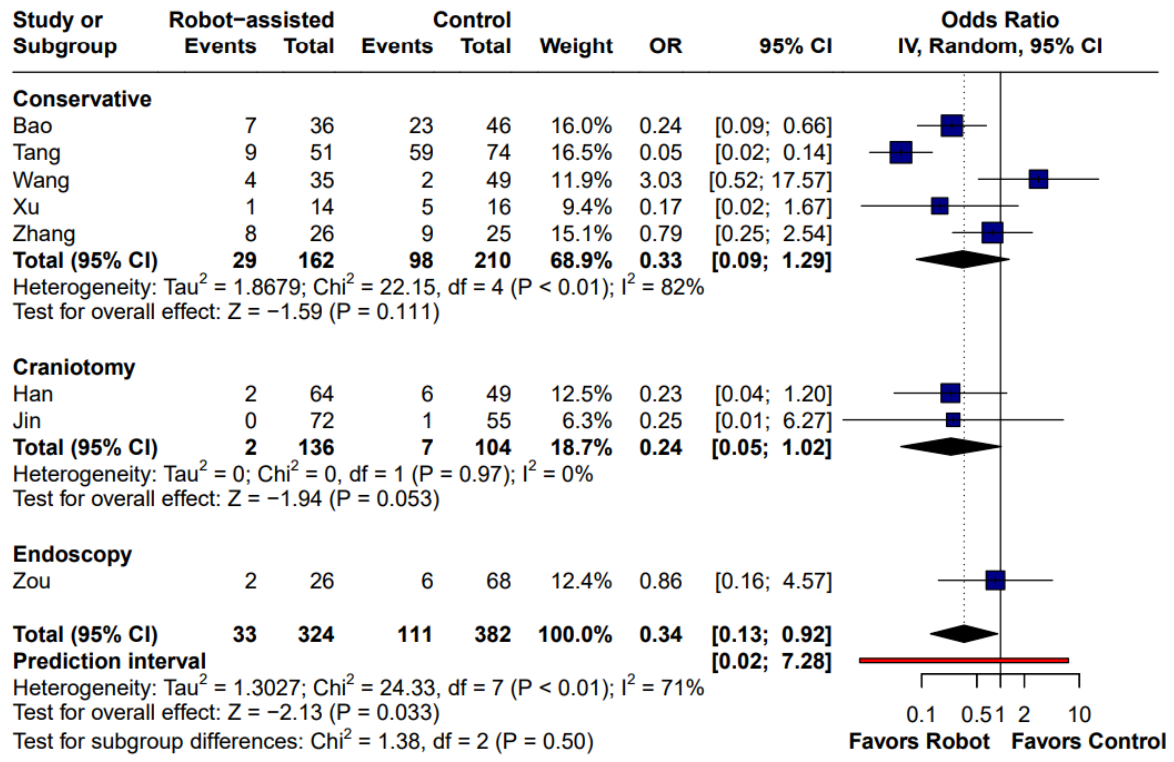
SFigure 14: Leave-one PR mortality



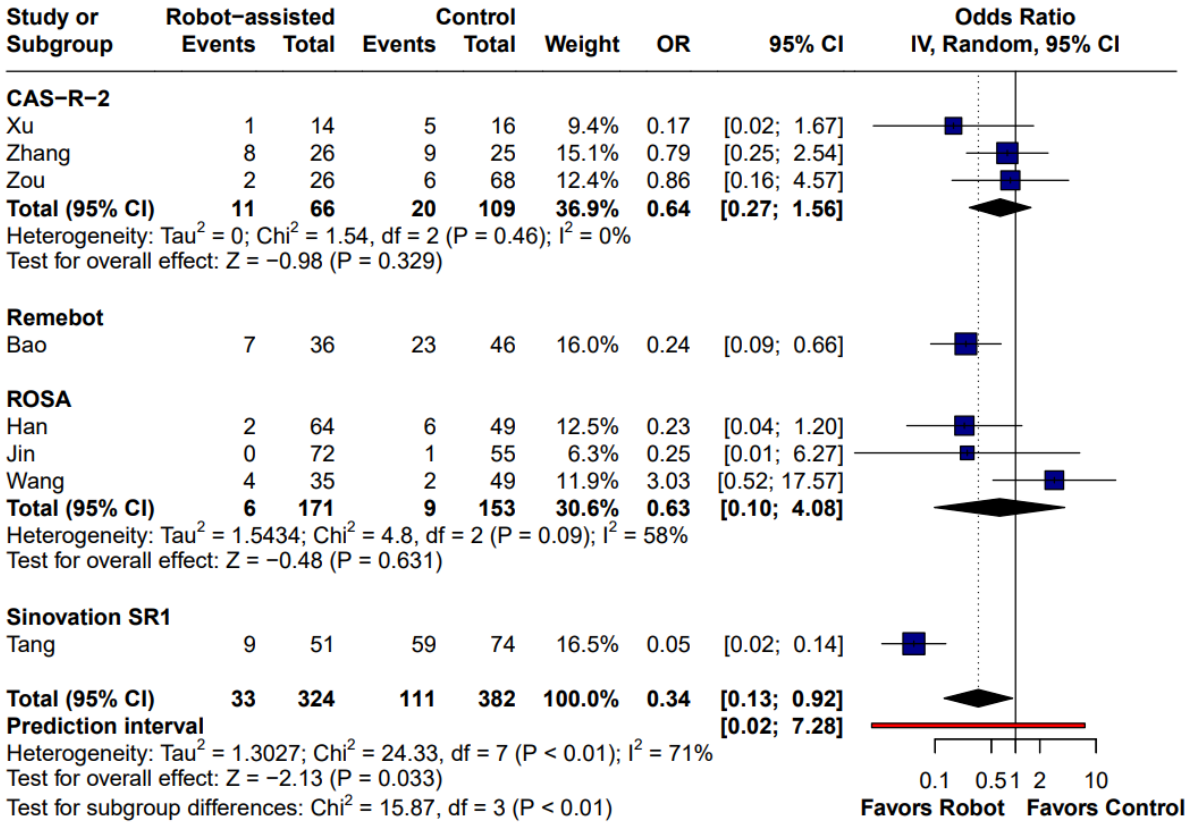
SFigure 15: GOSH PR mortality



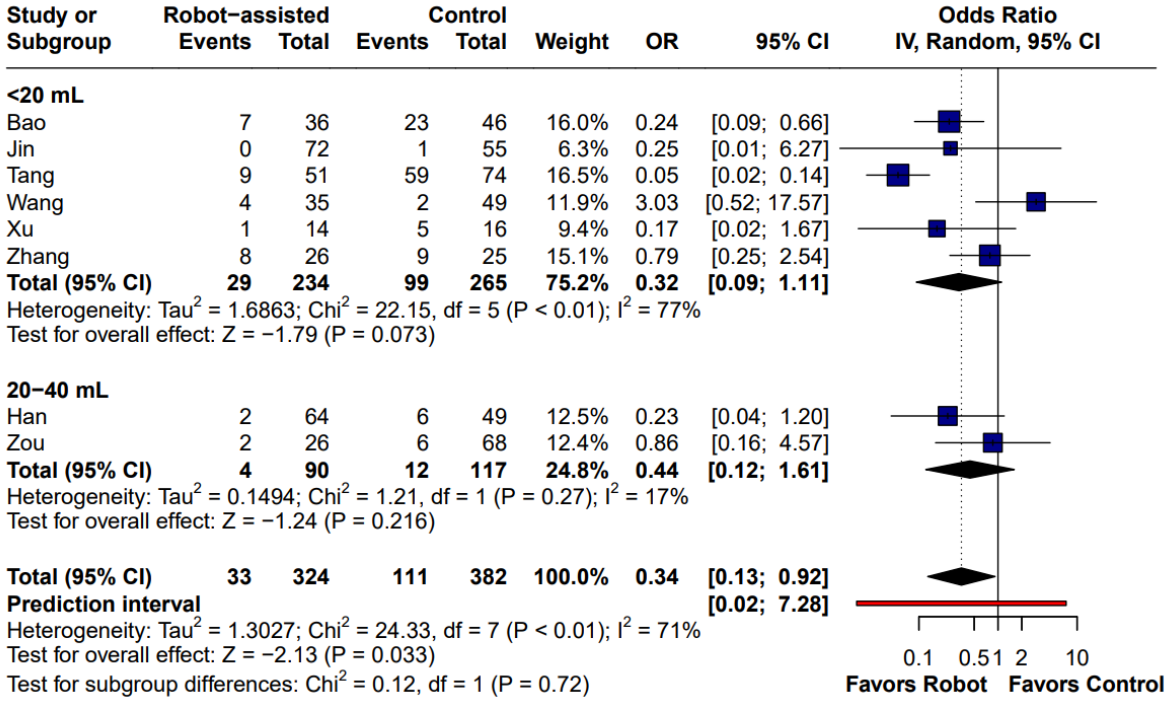
SFigure 16: Control PR mortality



SFigure 17: Robot model PR mortality

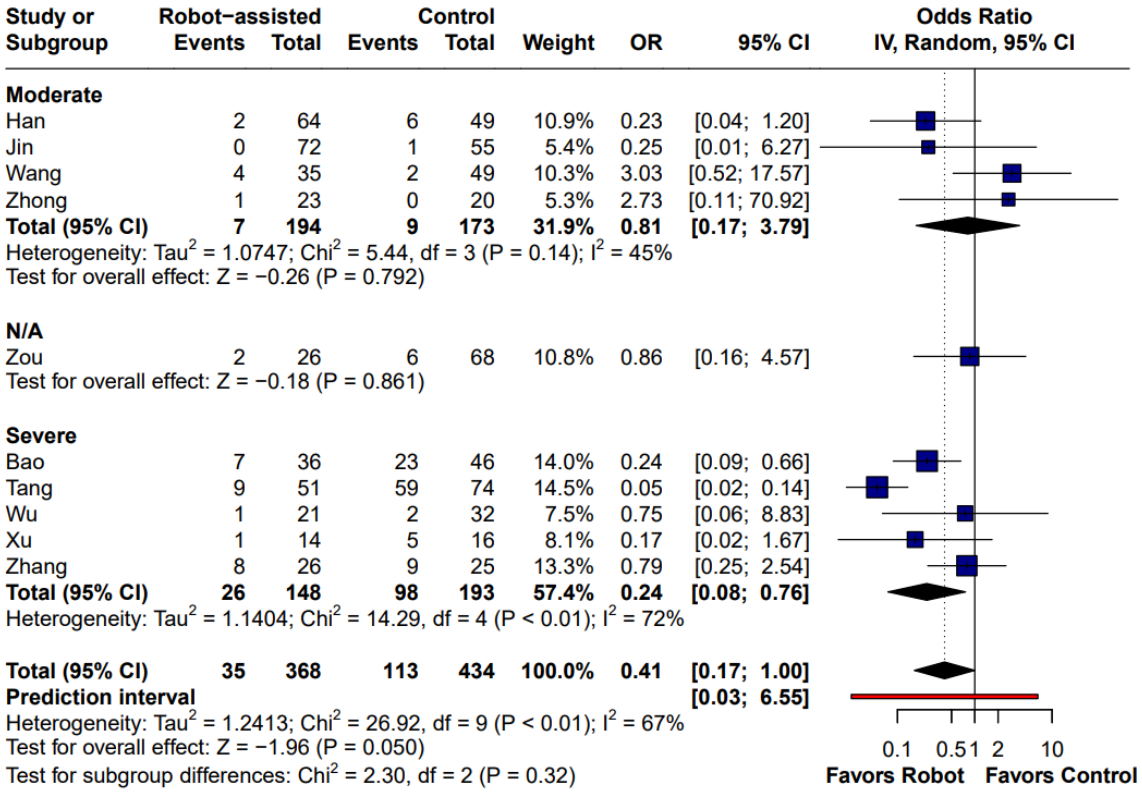


SFigure 18: Hematoma volume PR mortality

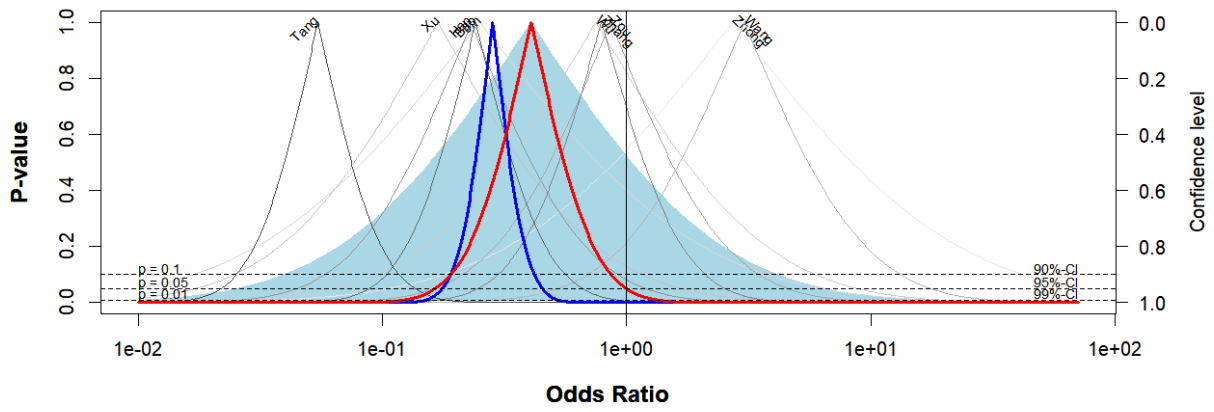


c) Mortality sensitivity (including Zhong study)

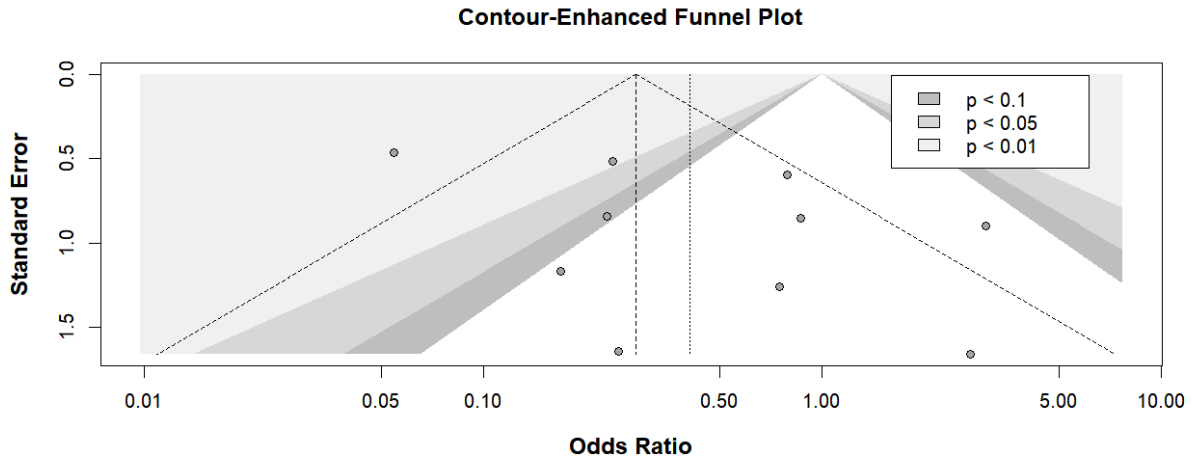
SFigure 19: GCS sensitivity mortality



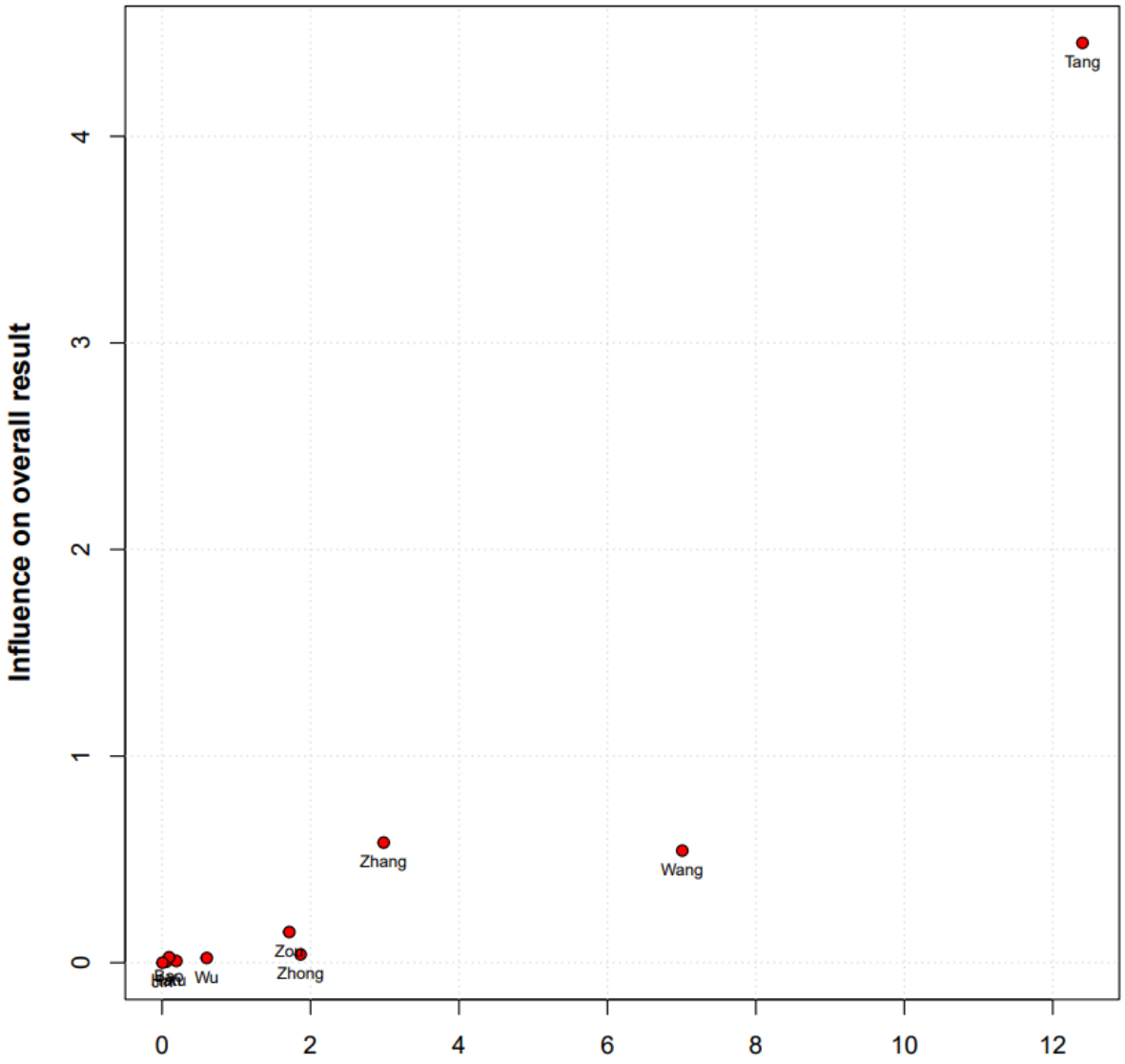
SFigure 20: Sensitivity mortality drapery plot



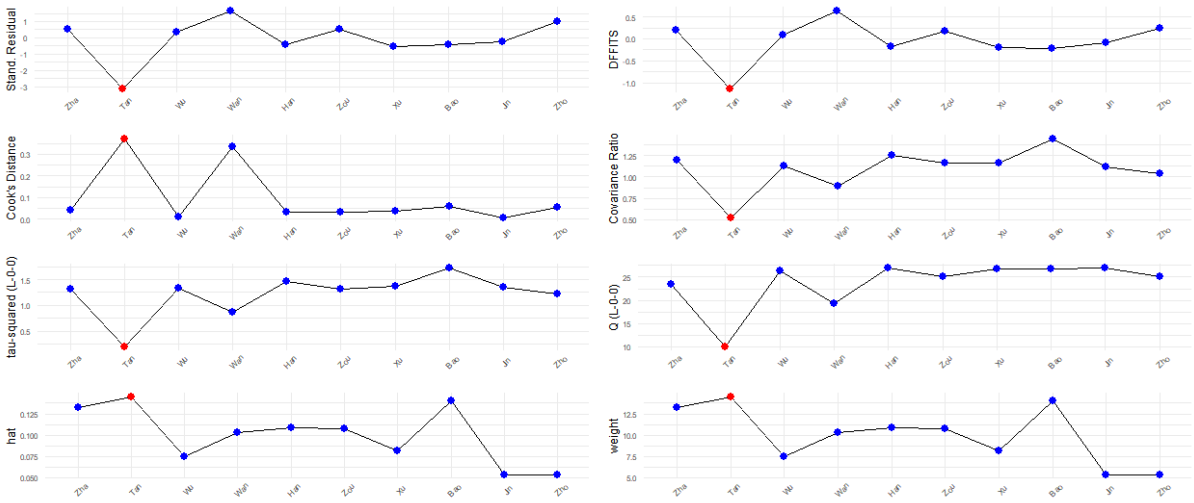
SFigure 21: Sensitivity mortality funnel plot



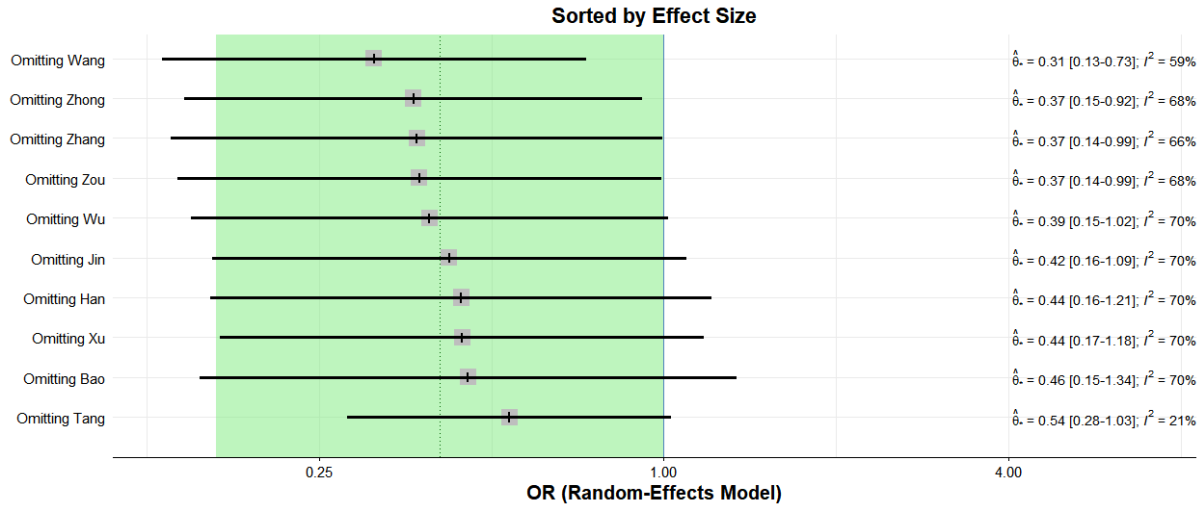
SFigure 22: Sensitivity mortality funnel plot



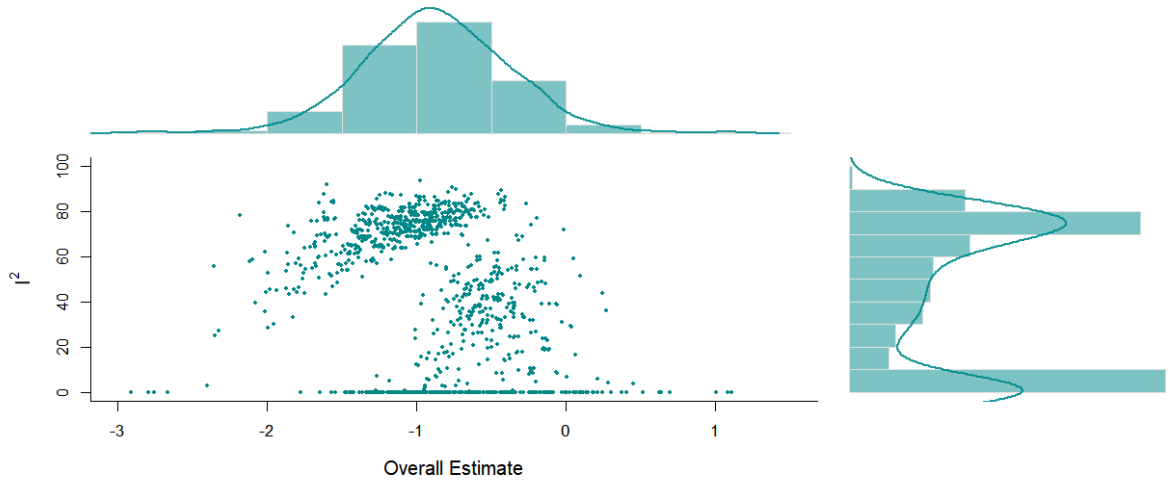
SFigure 23: Sensitivity mortality ID



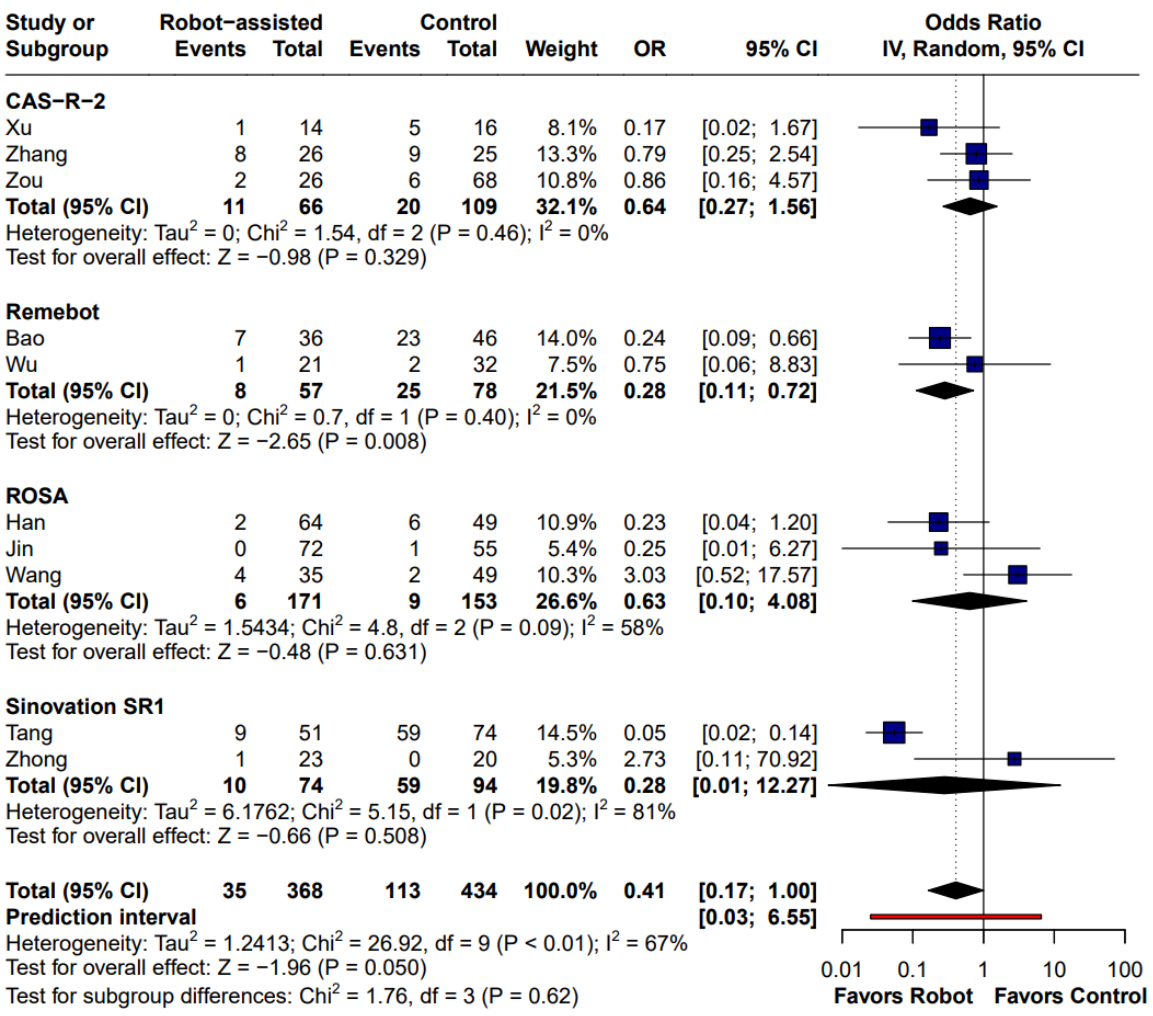
SFigure 24: Leave-one sensitivity mortality



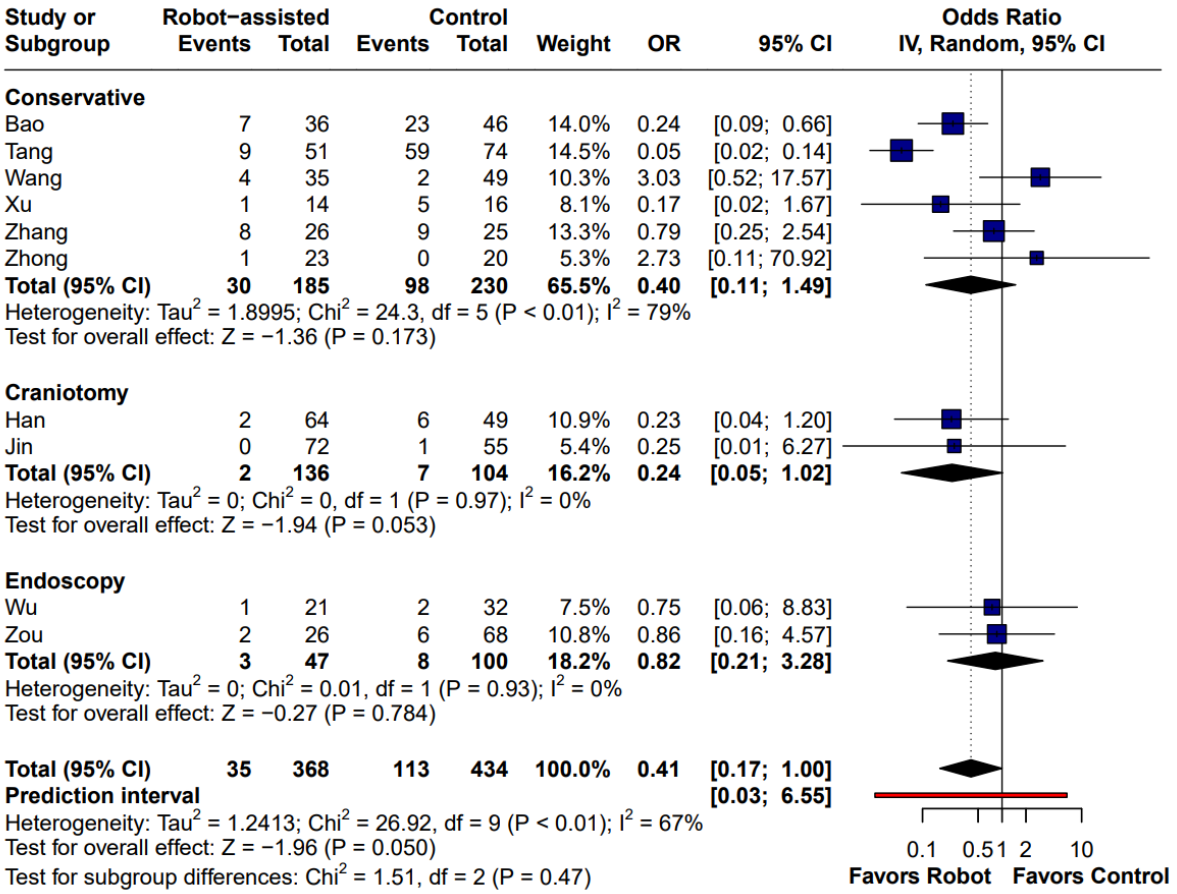
SFigure 25: GOSH sensitivity mortality



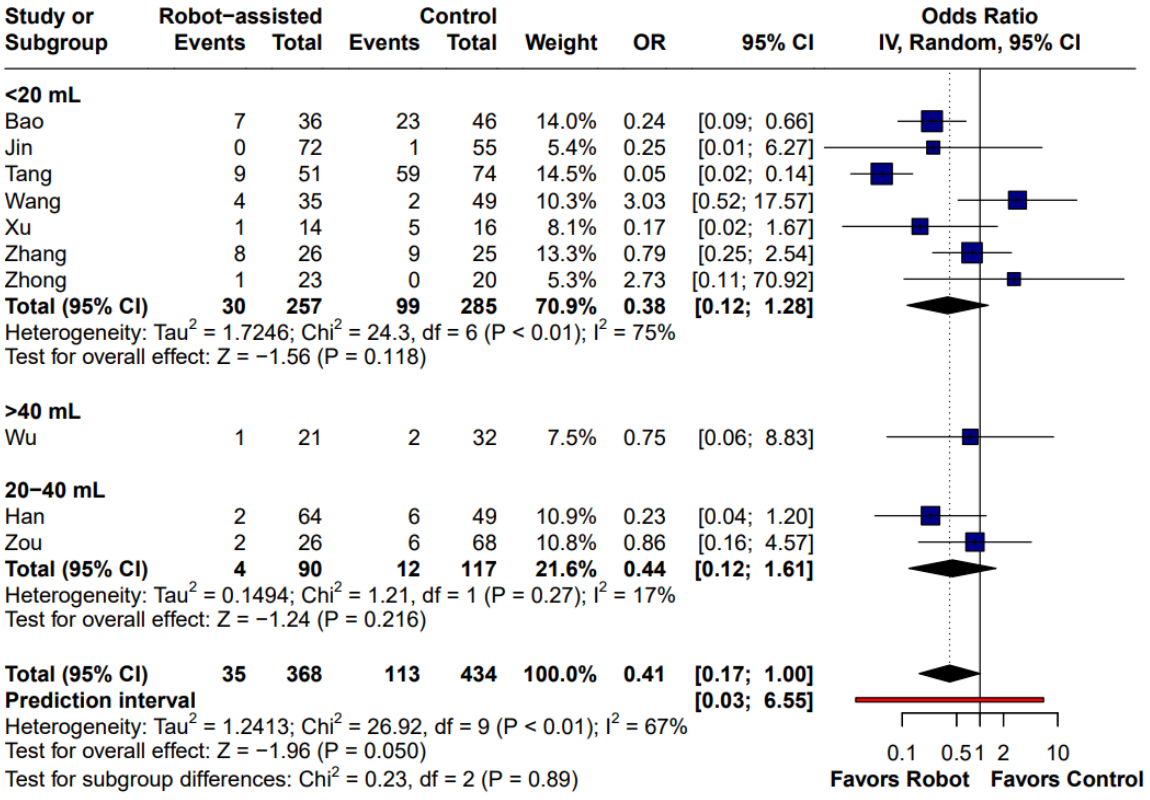
SFigure 26: Robot model sensitivity mortality



SFigure 27: Control sensitivity mortality

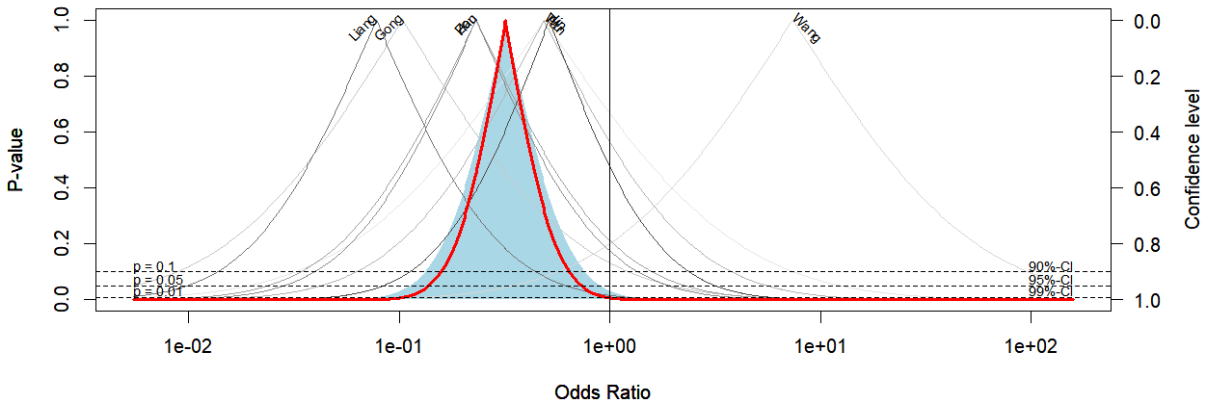


SFigure 28: Hematoma volume sensitivity mortality

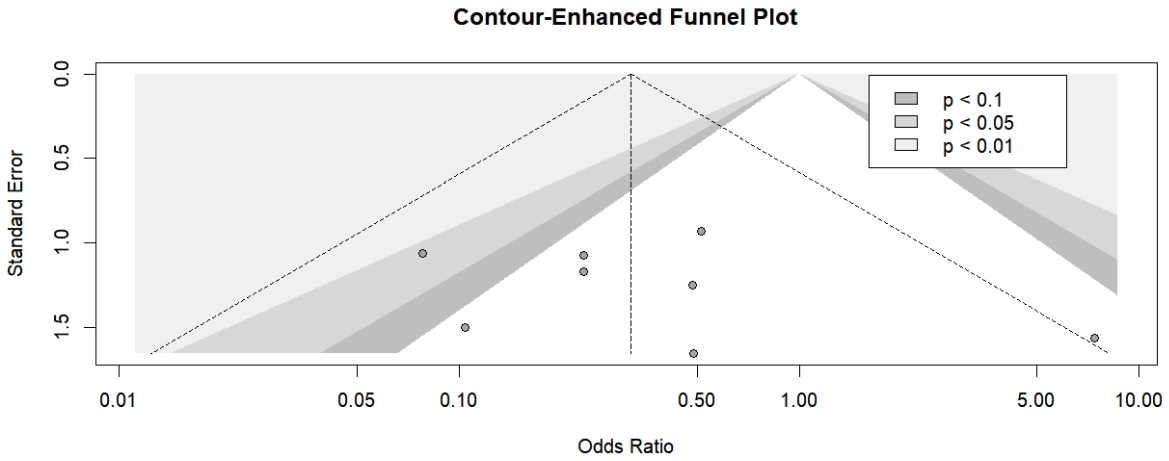


d) Rebleeding events

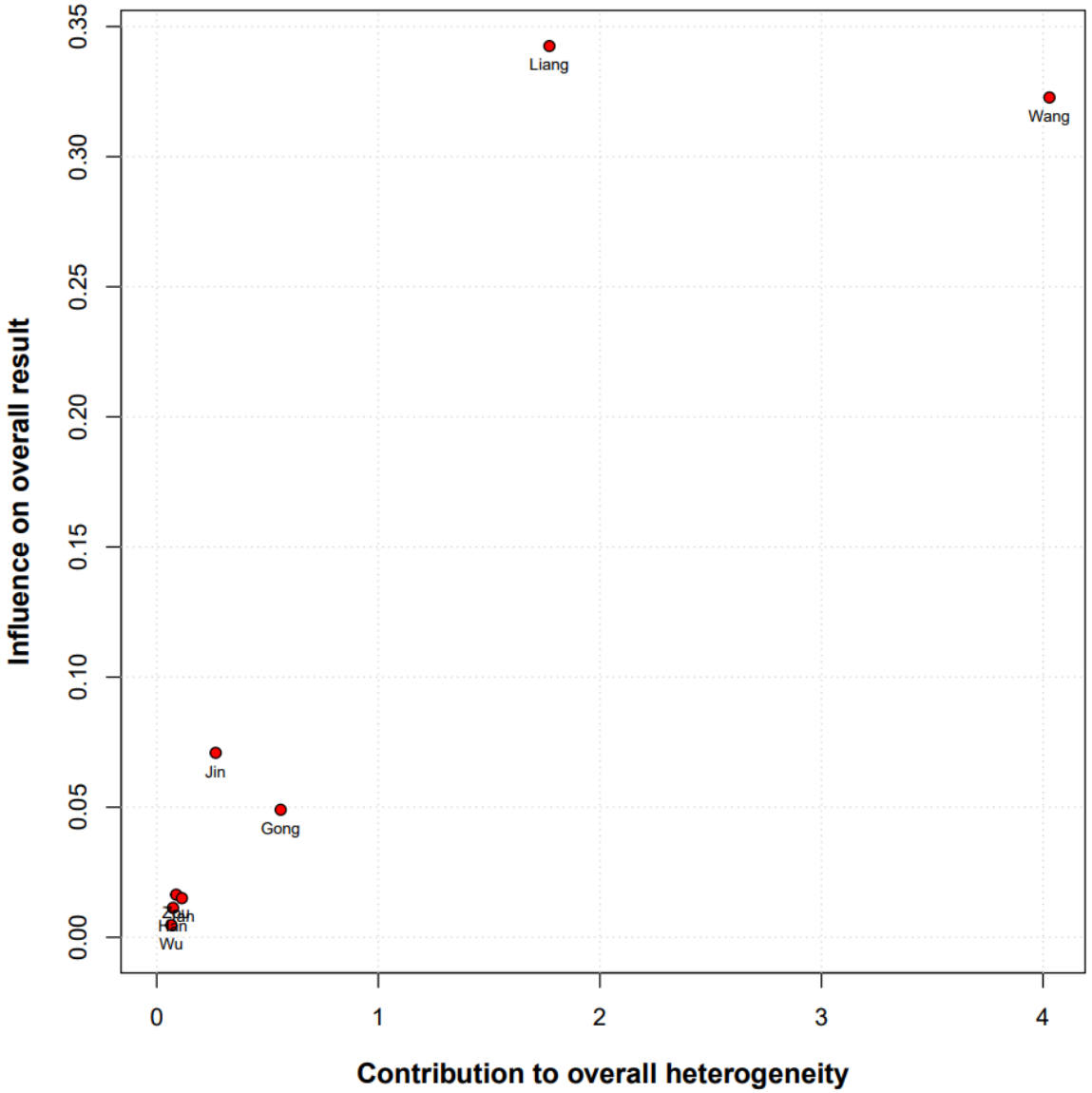
SFigure 29: Rebleeding drapery plot



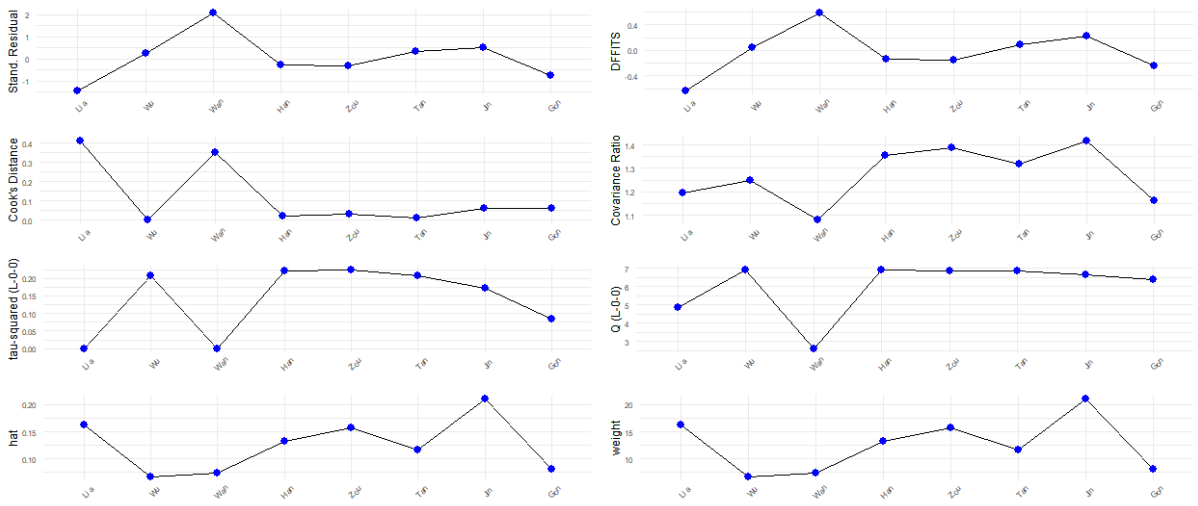
SFigure 30: Rebleeding funnel plot



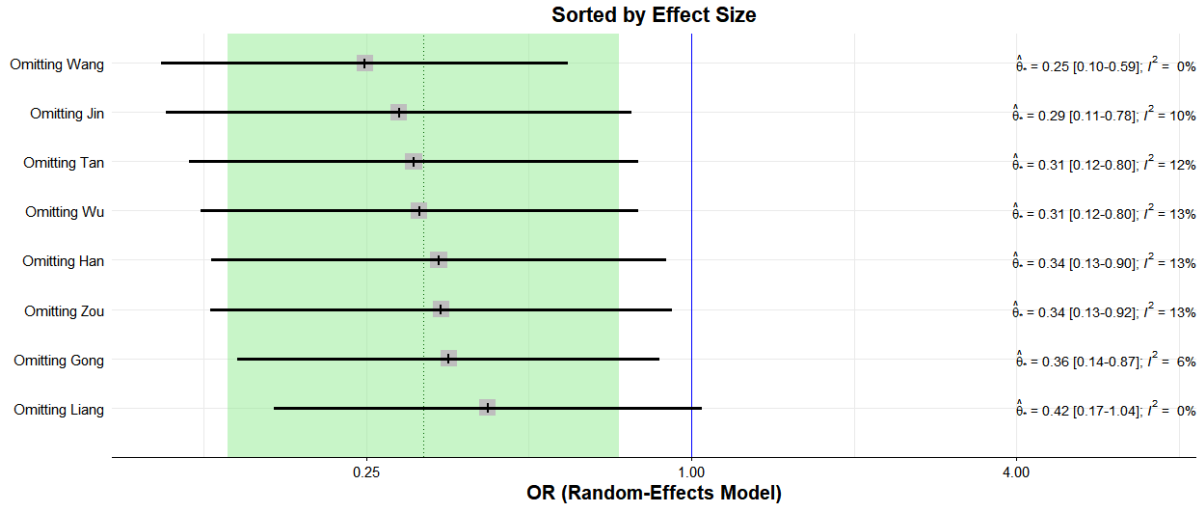
SFigure 31: Baujat plot for rebleeding



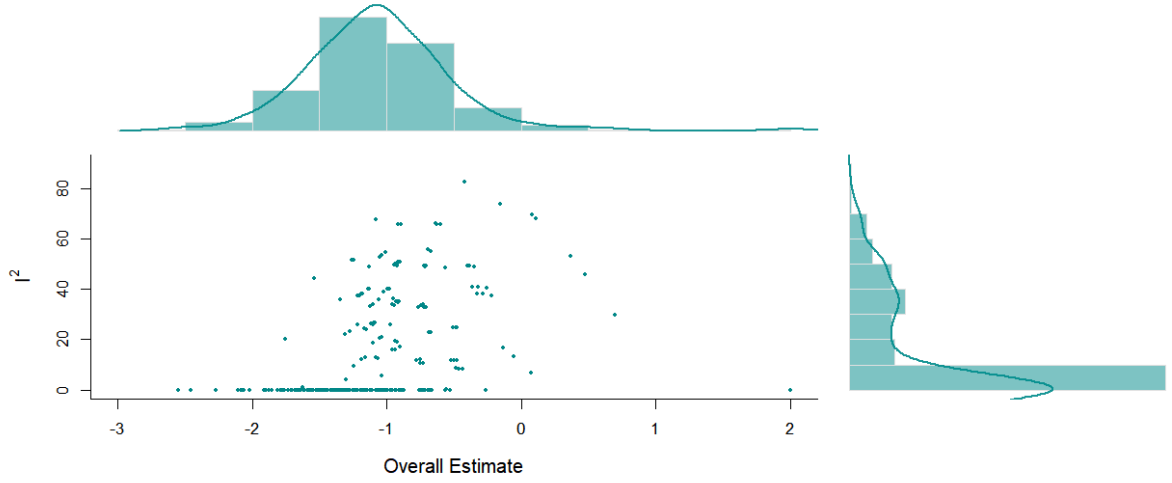
SFigure 32: Rebleeding ID



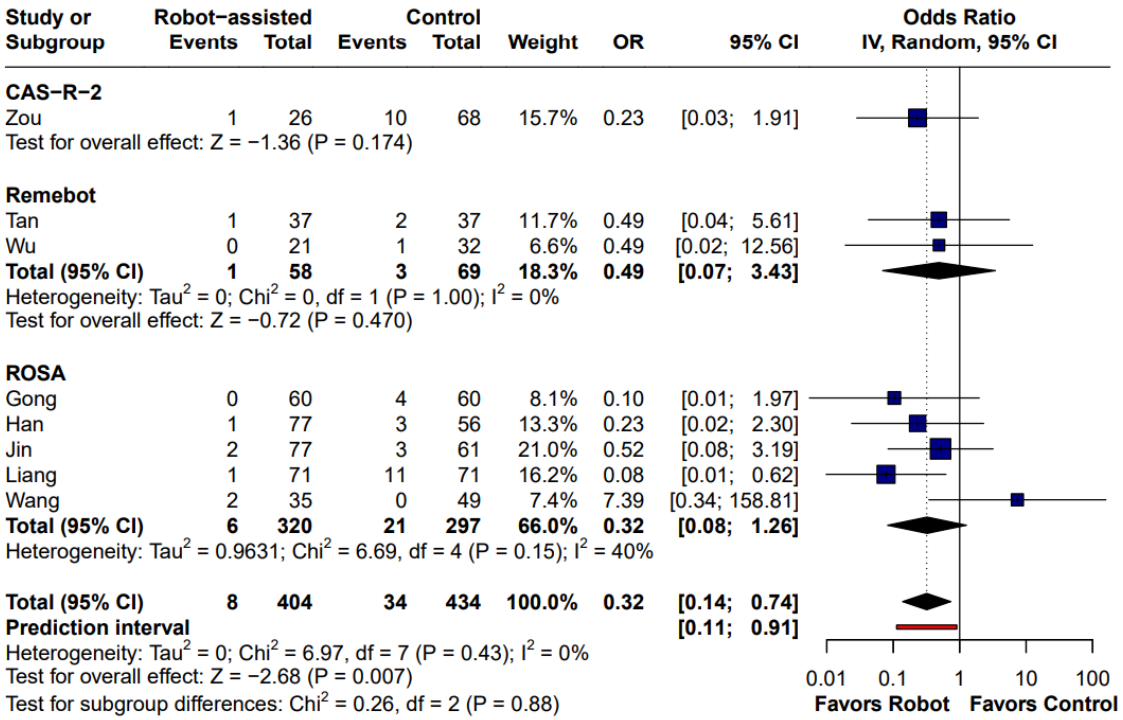
SFigure 33: Leave-one out rebleeding



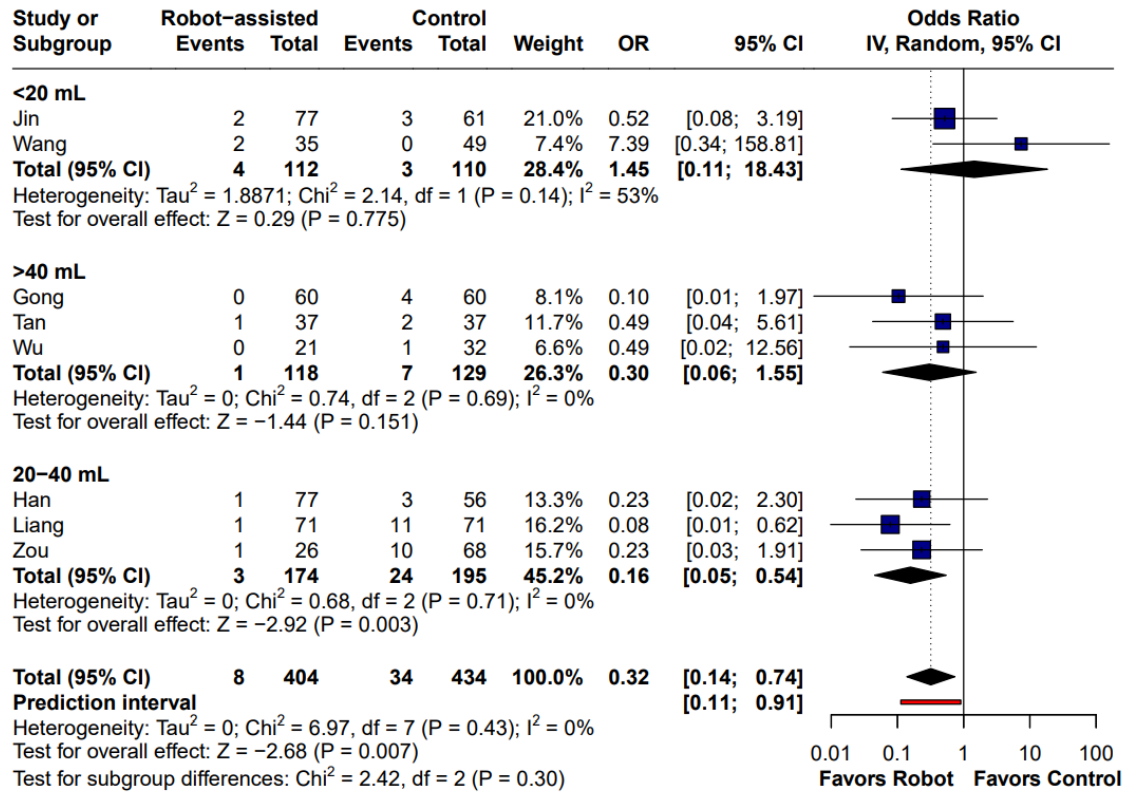
SFigure 34: GOSH rebleeding



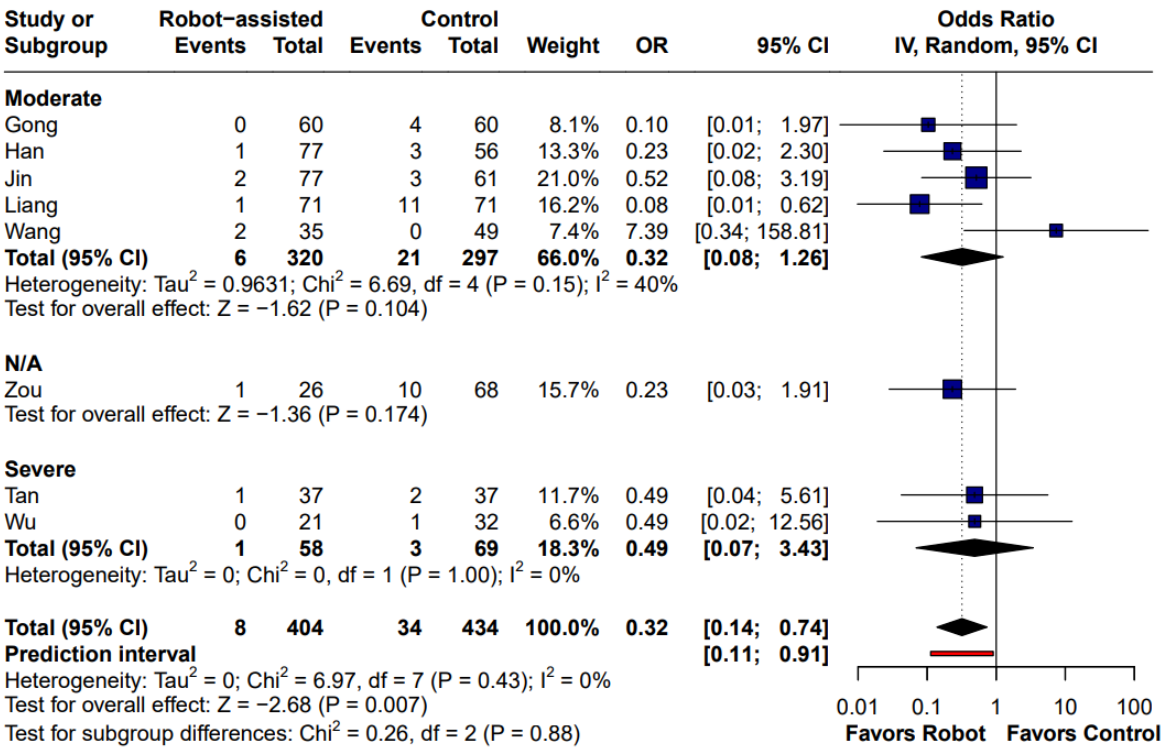
SFigure 35: Robot model rebleeding



SFigure 36: Hematoma volume rebleeding

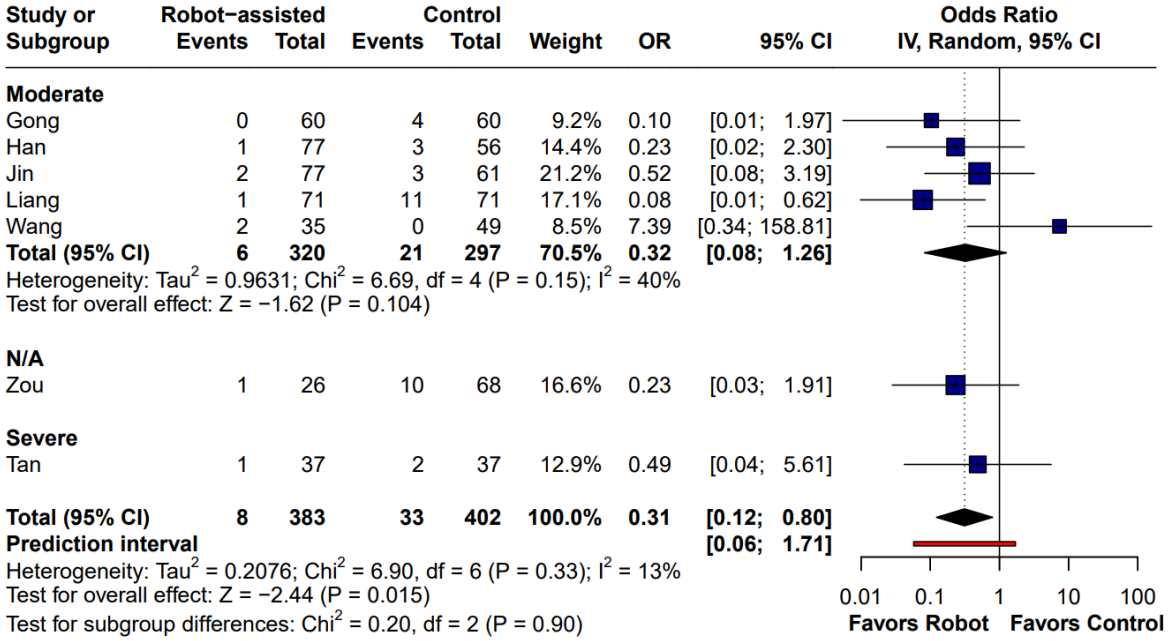


SFigure 37: GCS score rebleeding

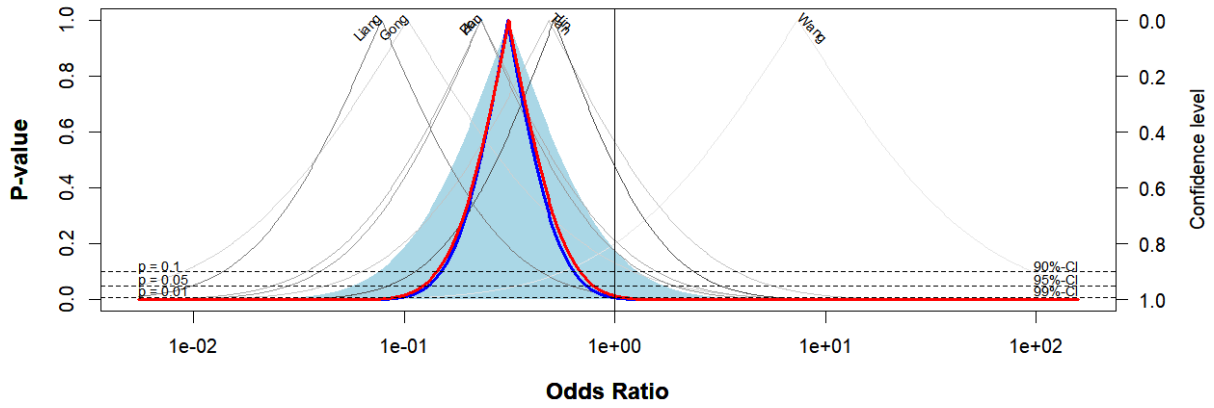


e) Rebleeding (PR only) sensitivity analysis

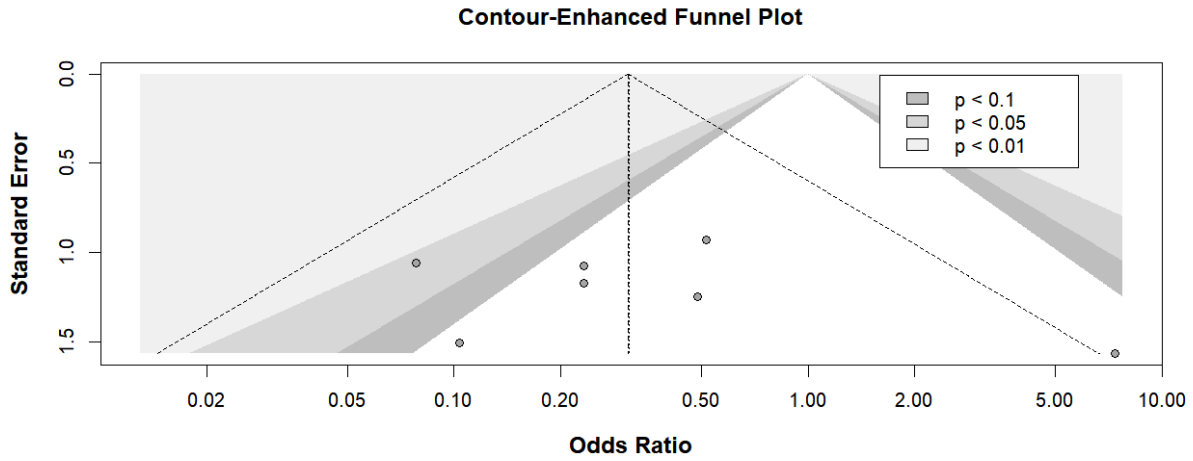
SFigure 38: GCS score PR rebleeding



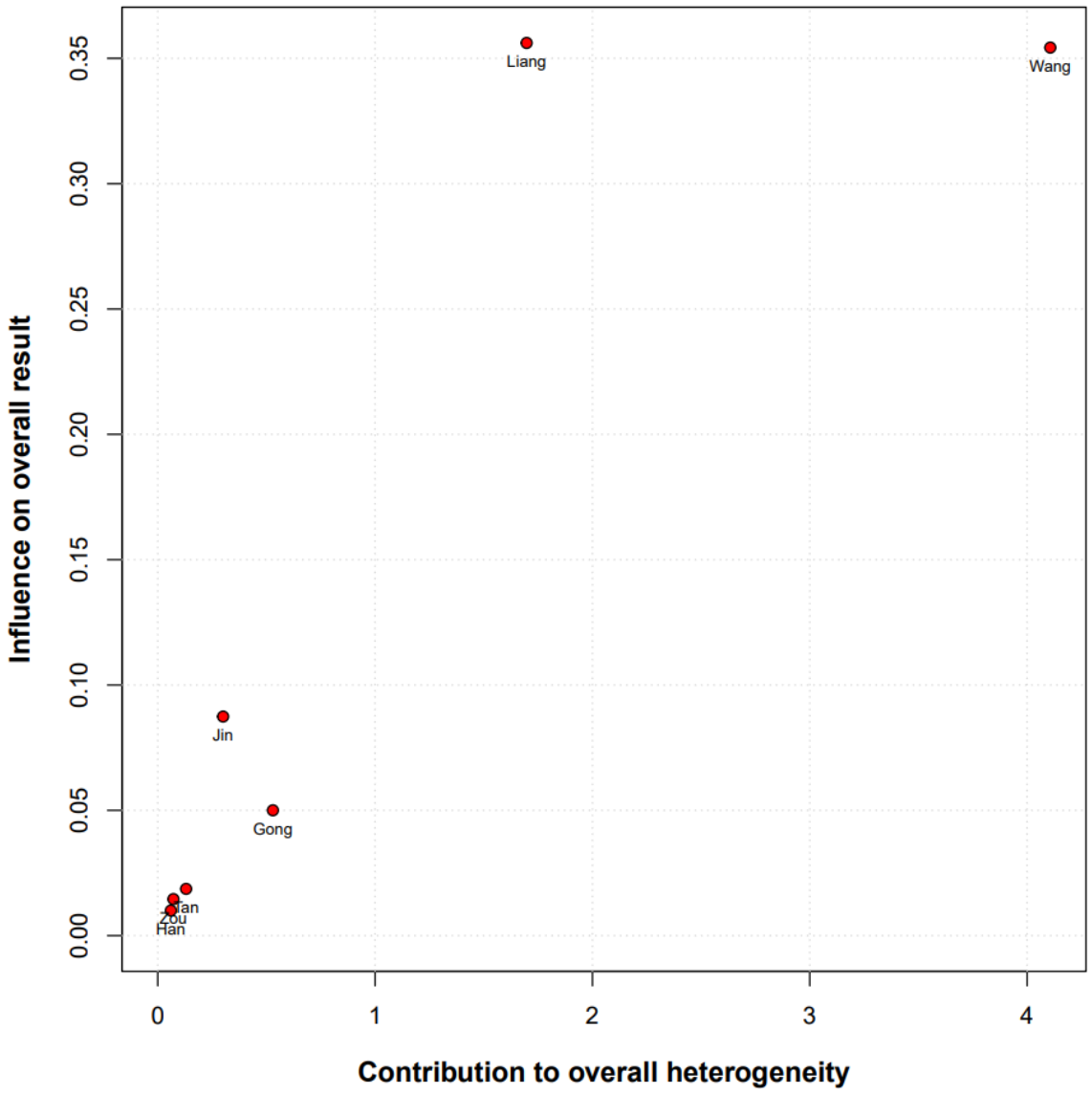
SFigure 39: PR rebleeding drapery plot



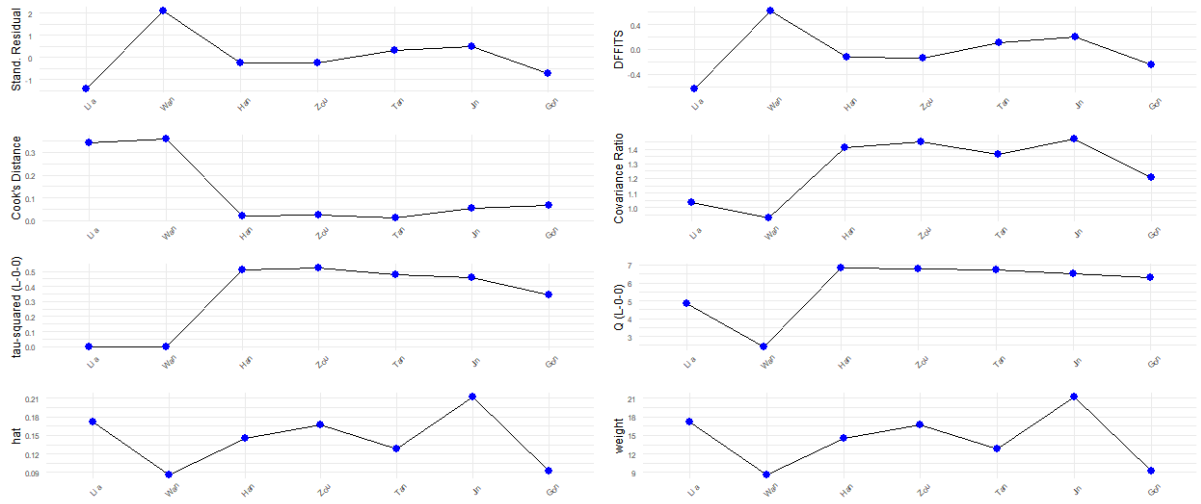
SFigure 40: PR rebleeding funnel plot



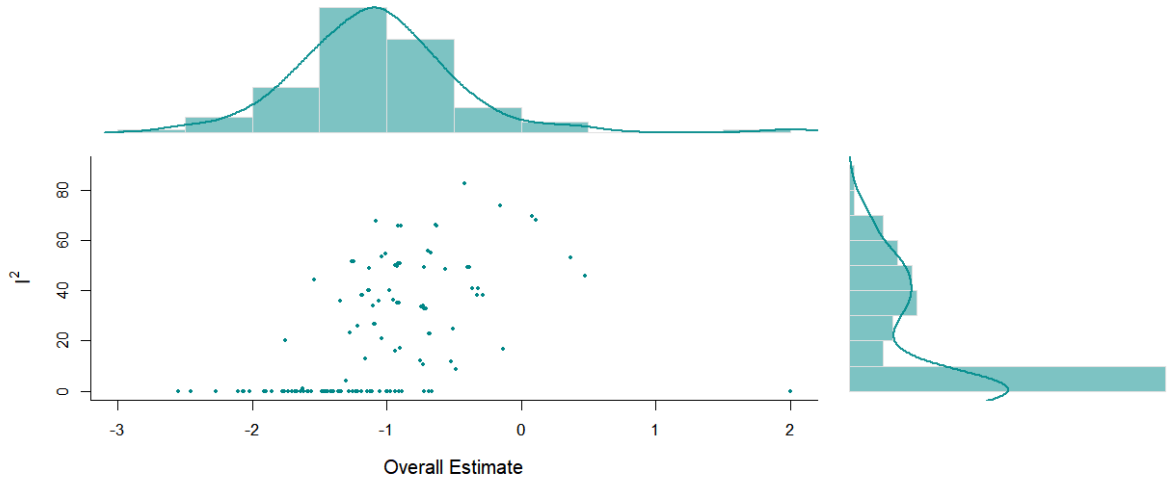
SFigure 41: PR rebleeding Baujat plot



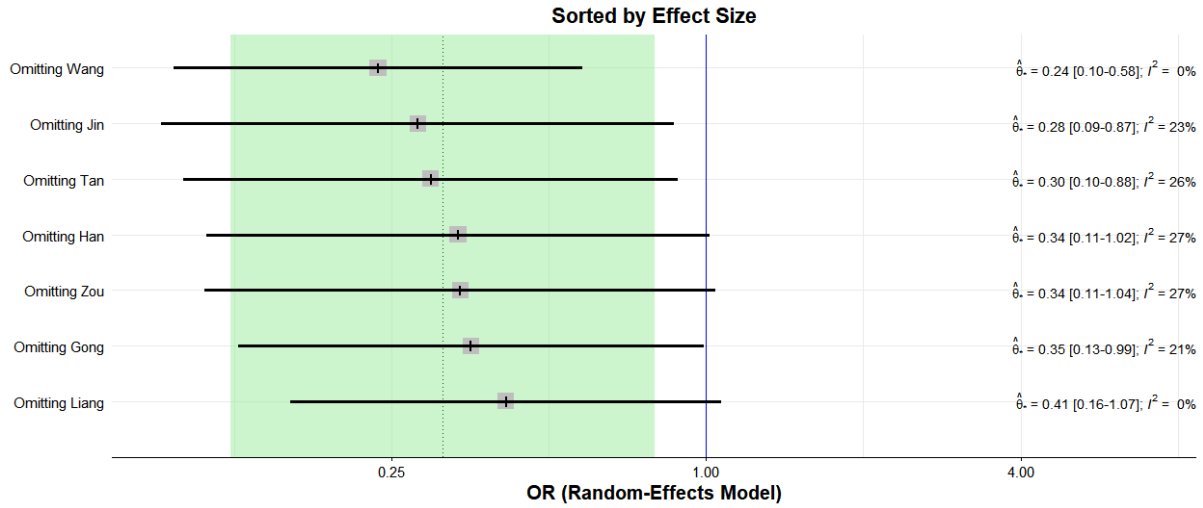
SFigure 42: PR rebleeding ID



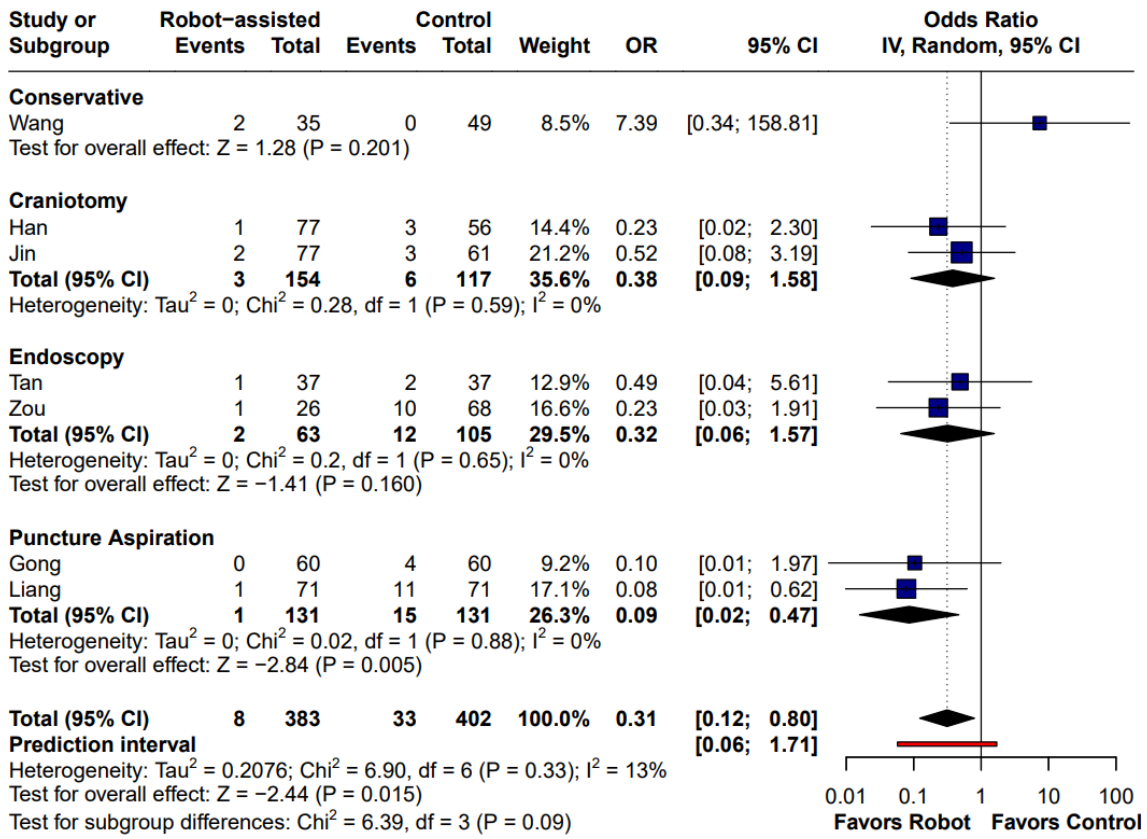
SFigure 43: GOSH PR rebleeding



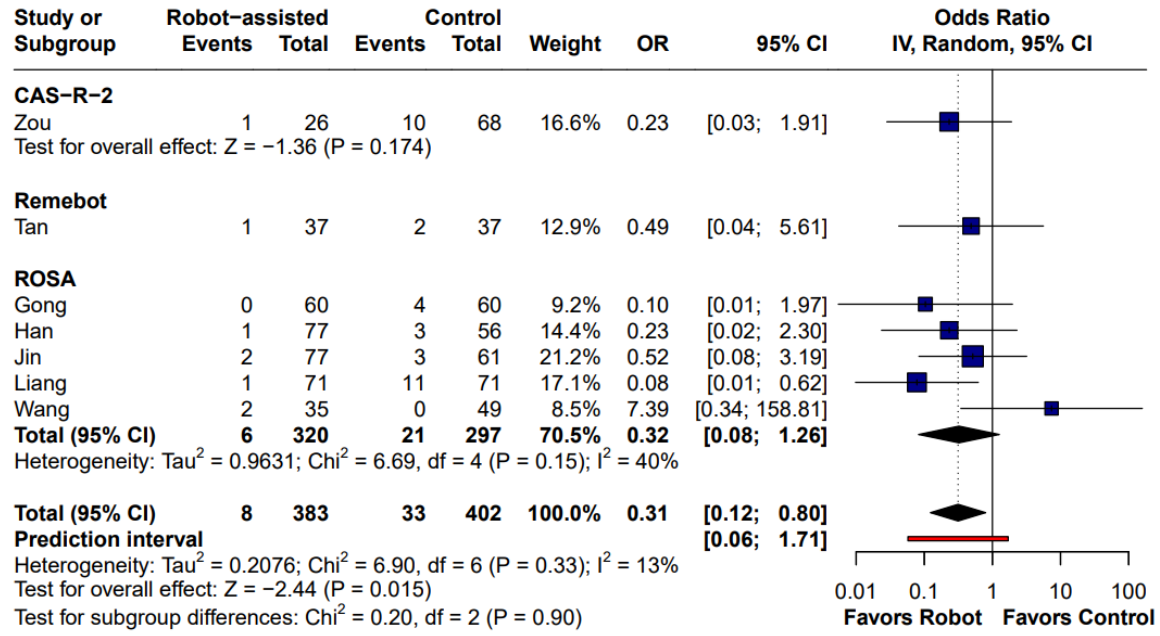
SFigure 44: Leave-one PR rebleeding



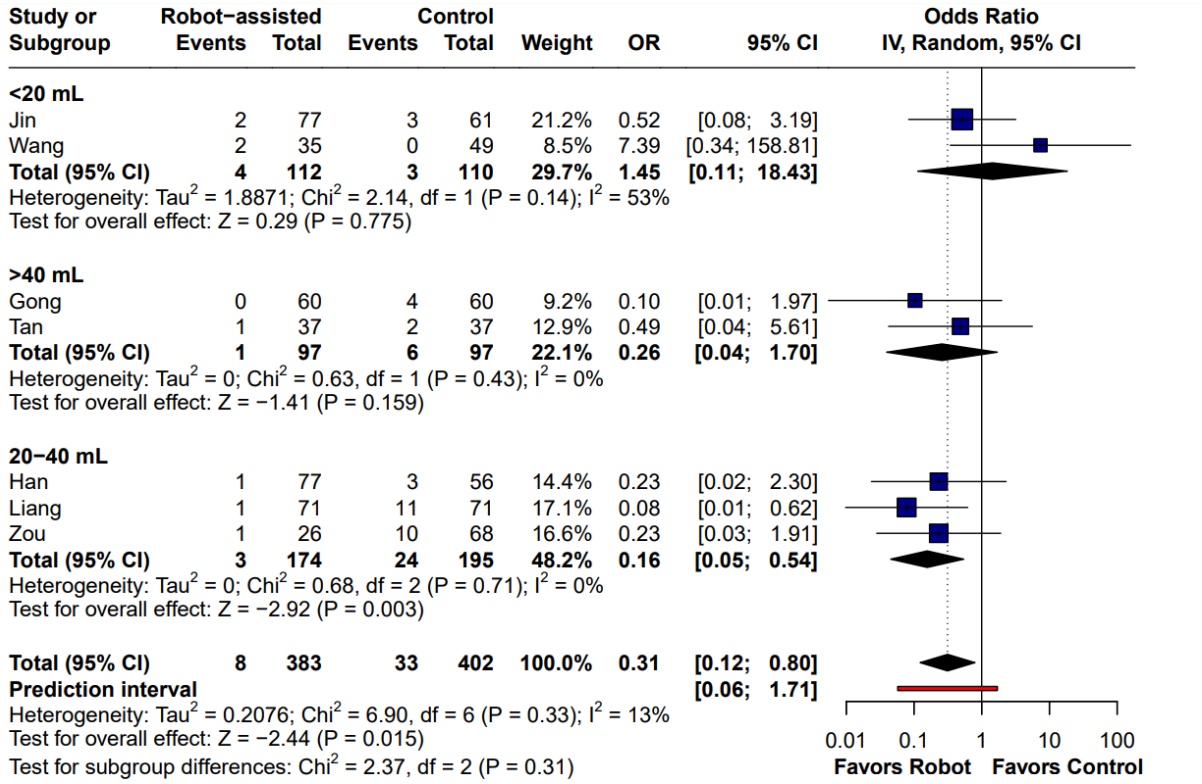
SFigure 45: Control PR rebleeding



SFigure 46: Robot model PR rebleeding

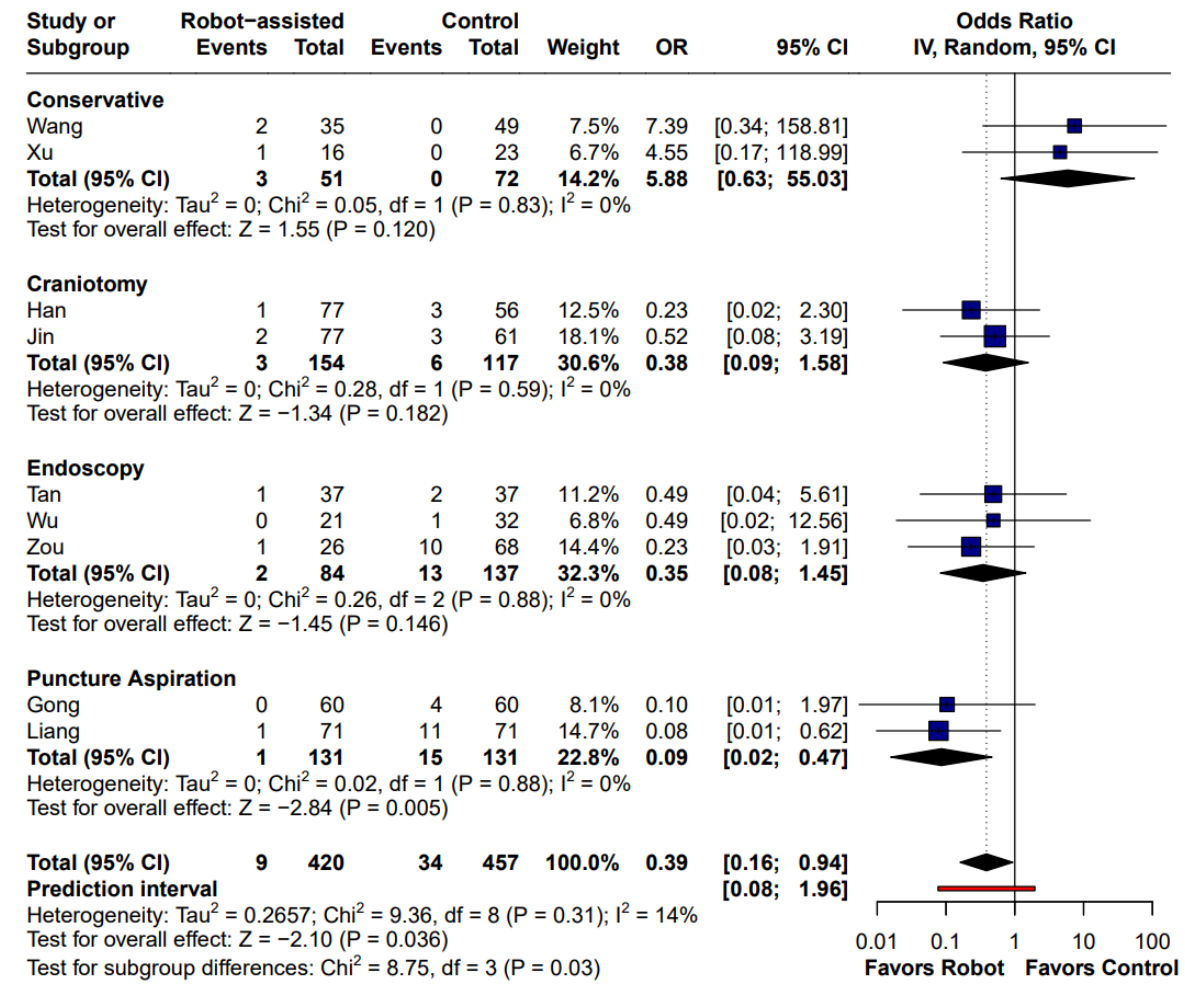


SFigure 47: Hematoma volume PR rebleeding

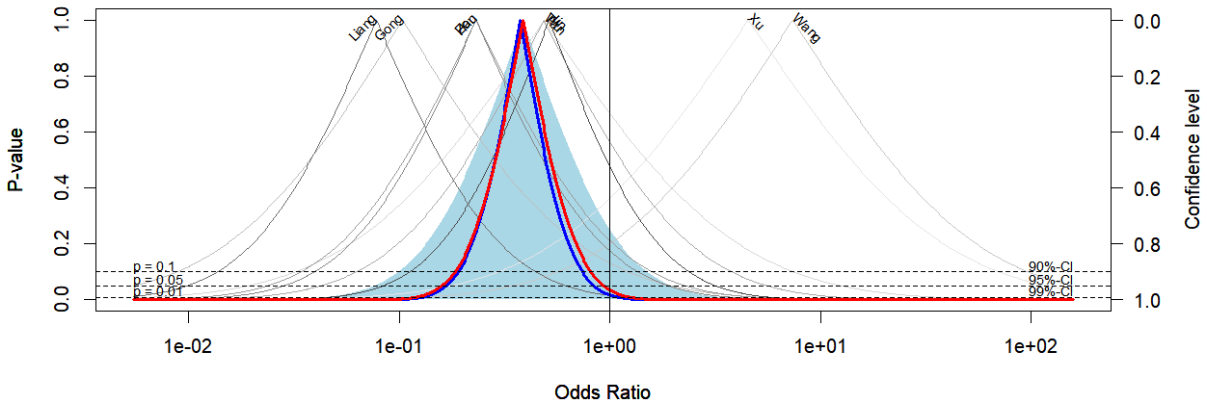


f) Rebleeding (sensitvity analysis with Xu et al.)

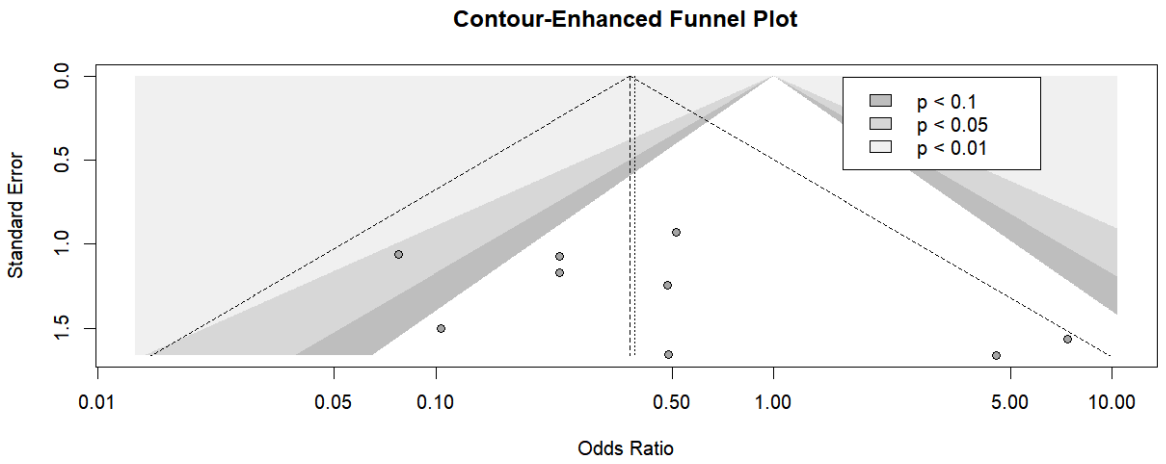
SFigure 48: Control sensitivity rebleeding



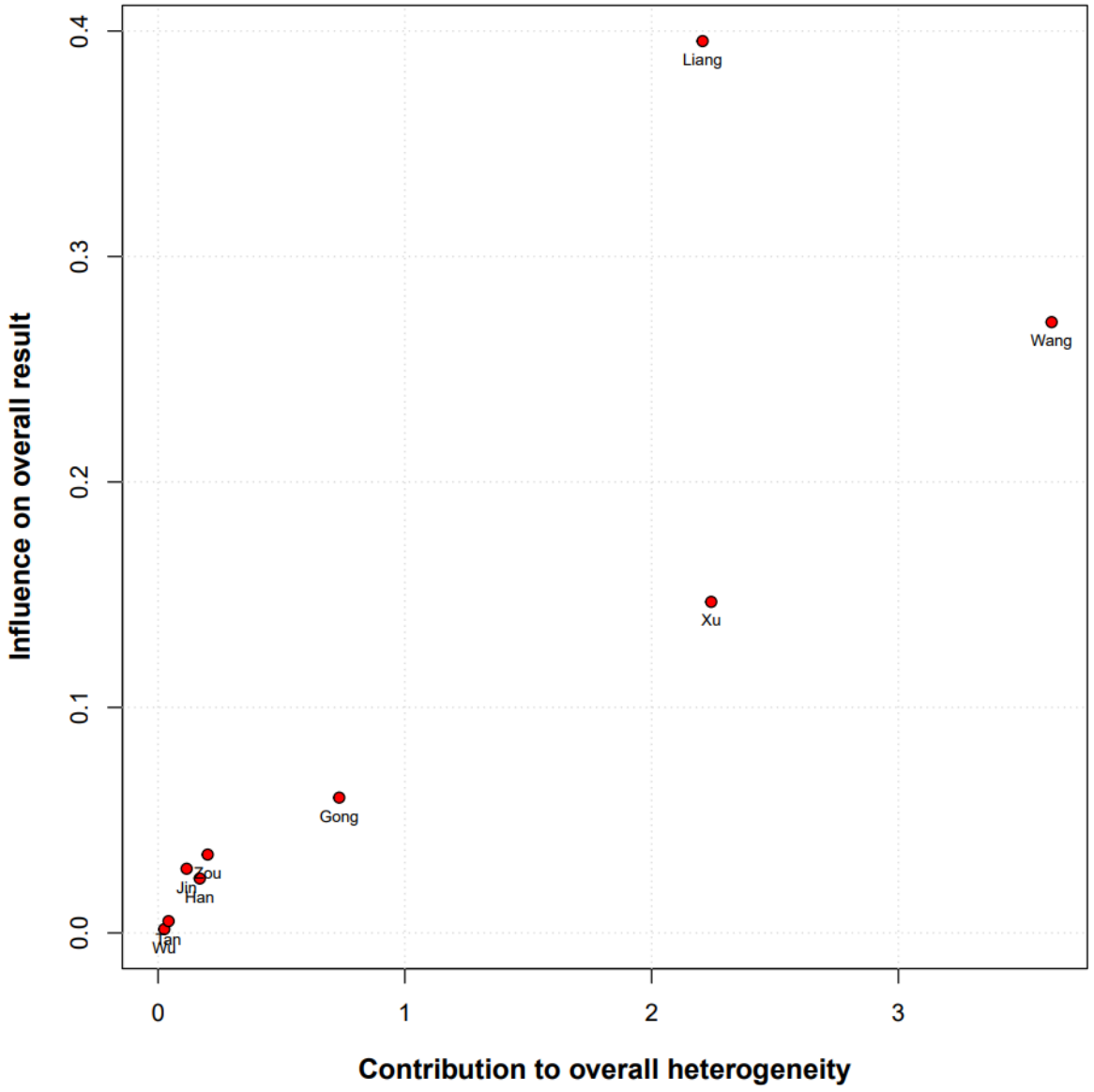
SFigure 49: Sensitivity rebleeding drapery plot



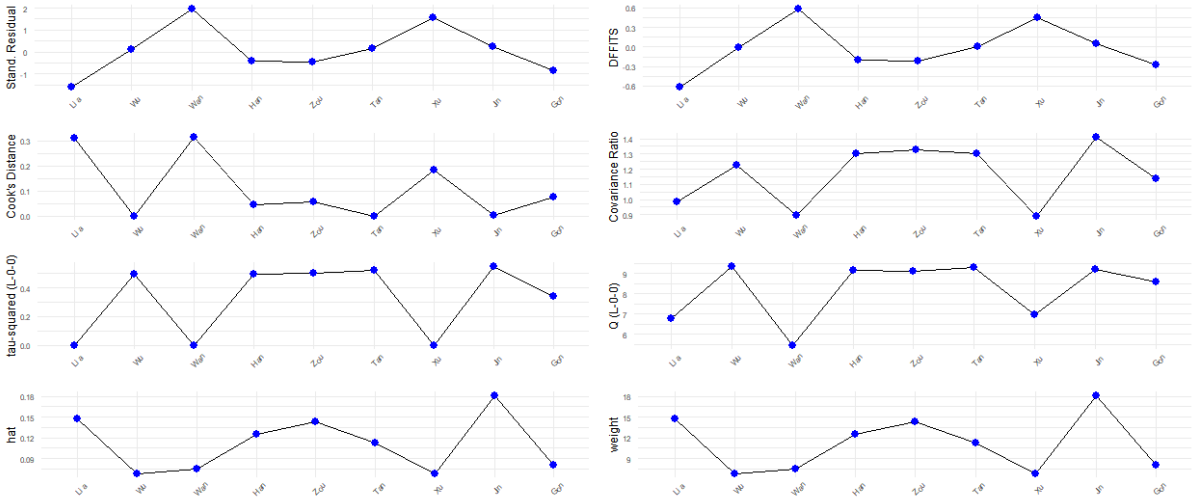
SFigure 50: Sensitivity rebleeding funnel plot



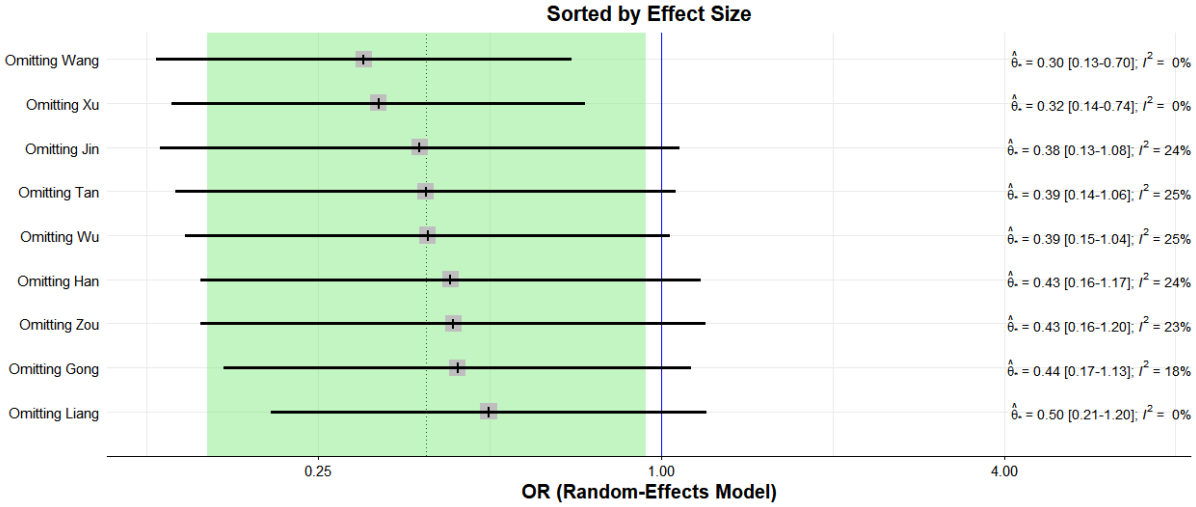
SFigure 51: Sensitivity rebleeding Baujat plot



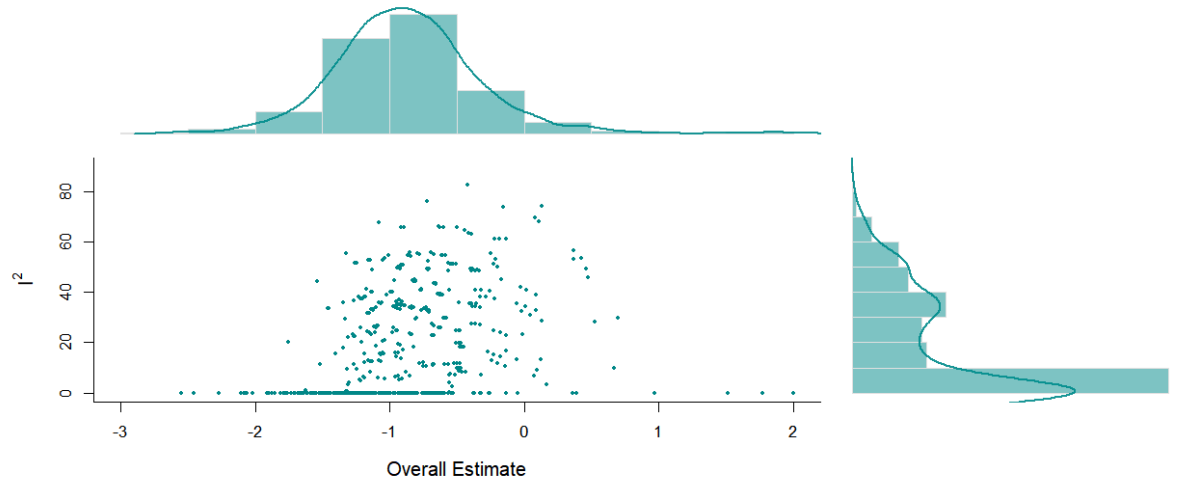
SFigure 52: Sensitivity rebleeding ID



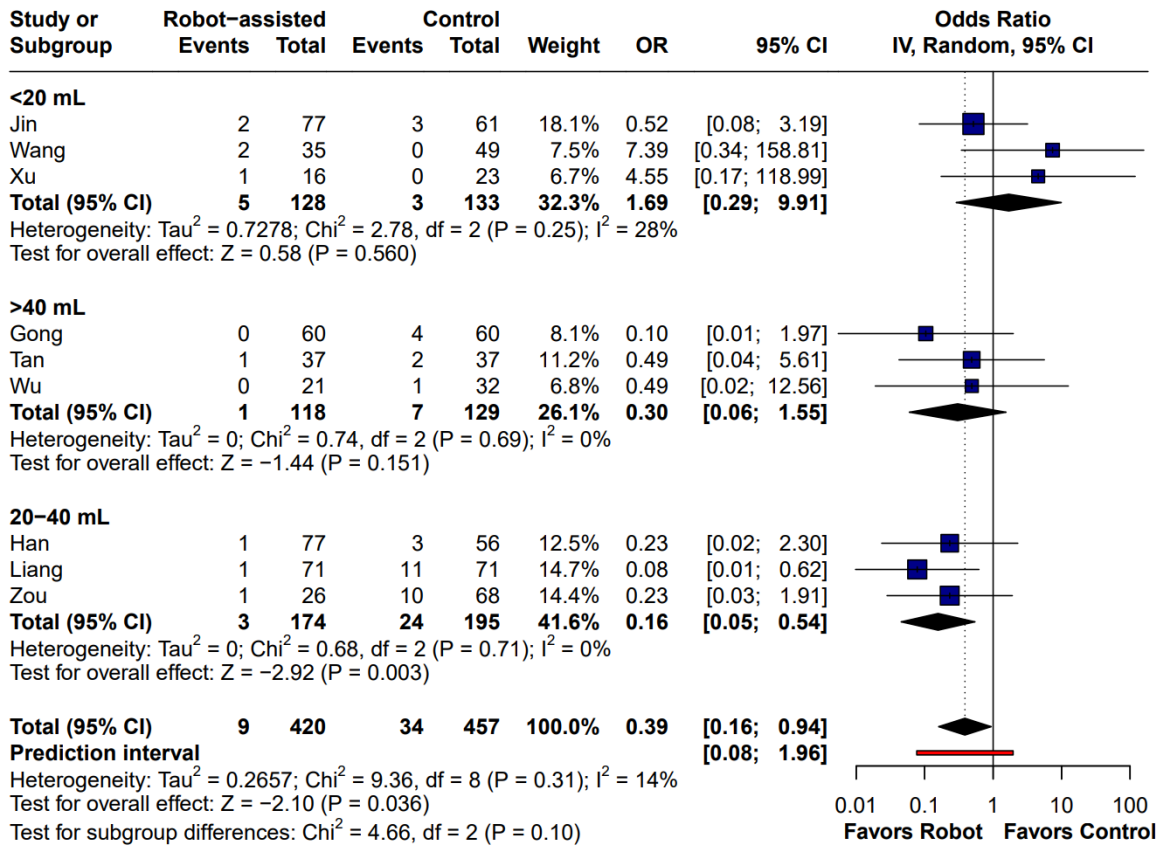
SFigure 53: Leave-one sensitivity rebleeding



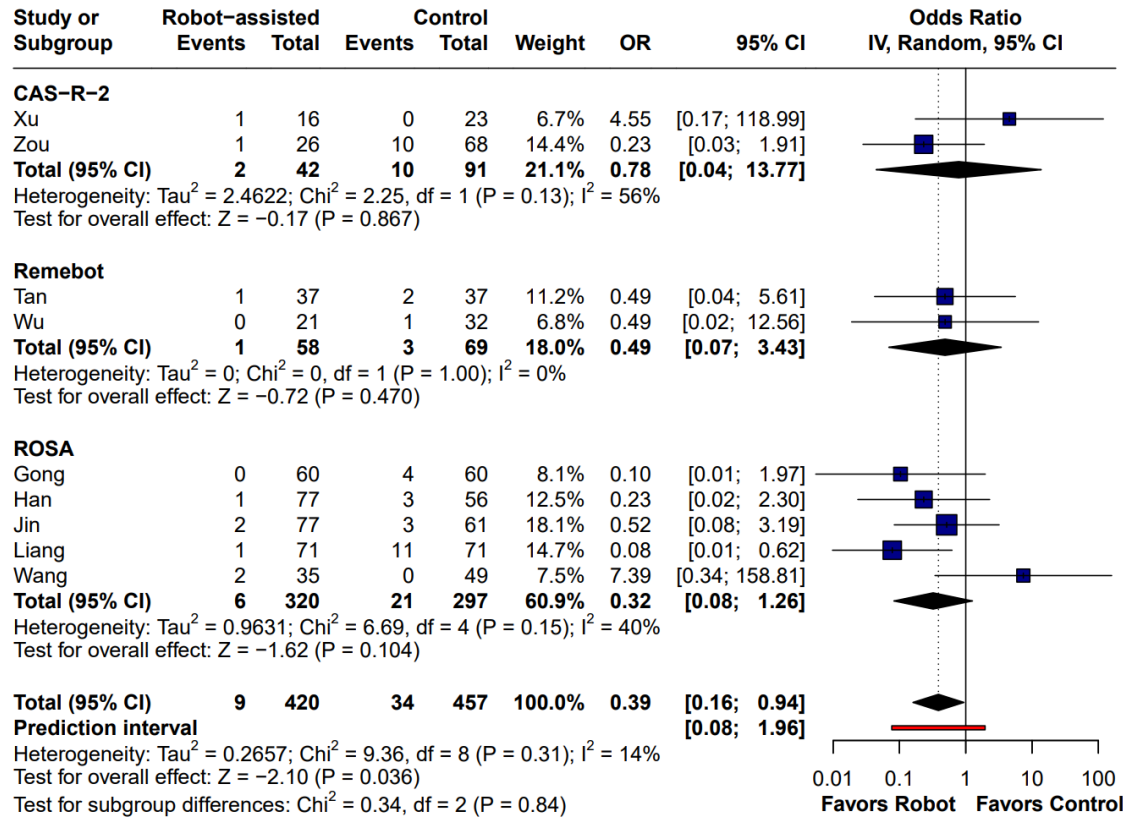
SFigure 54: GOSH sensitivity rebleeding



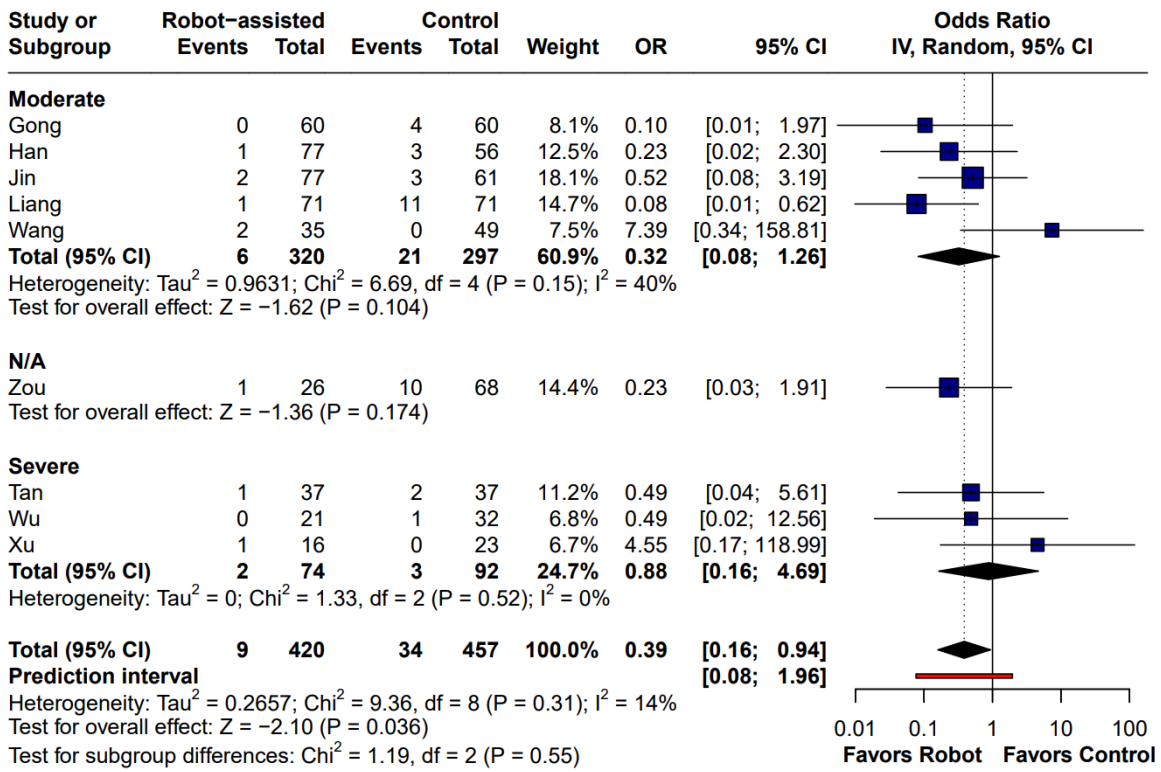
SFigure 55: Hematoma volume sensitivity rebleeding



SFigure 56: Robot model sensitivity rebleeding

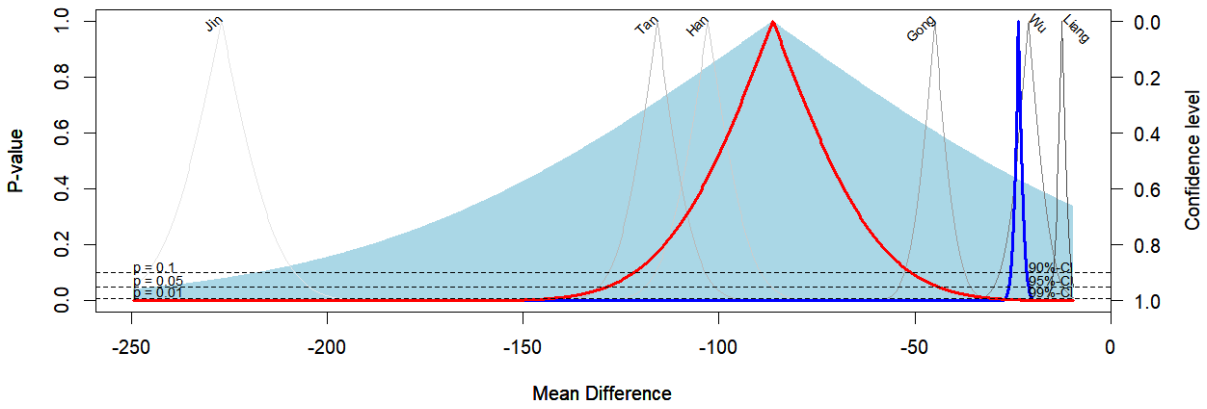


SFigure 57: GCS sensitivity rebleeding

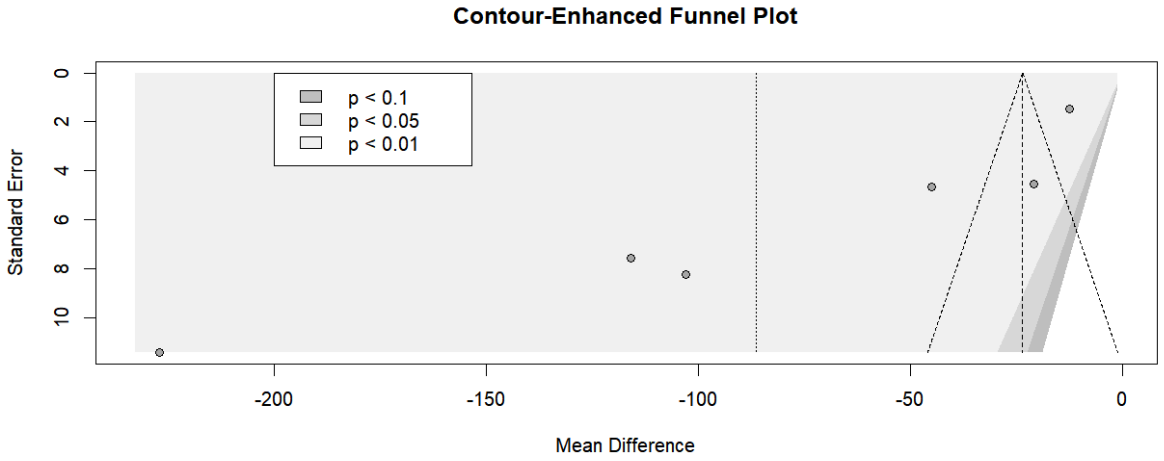


g) Surgery time

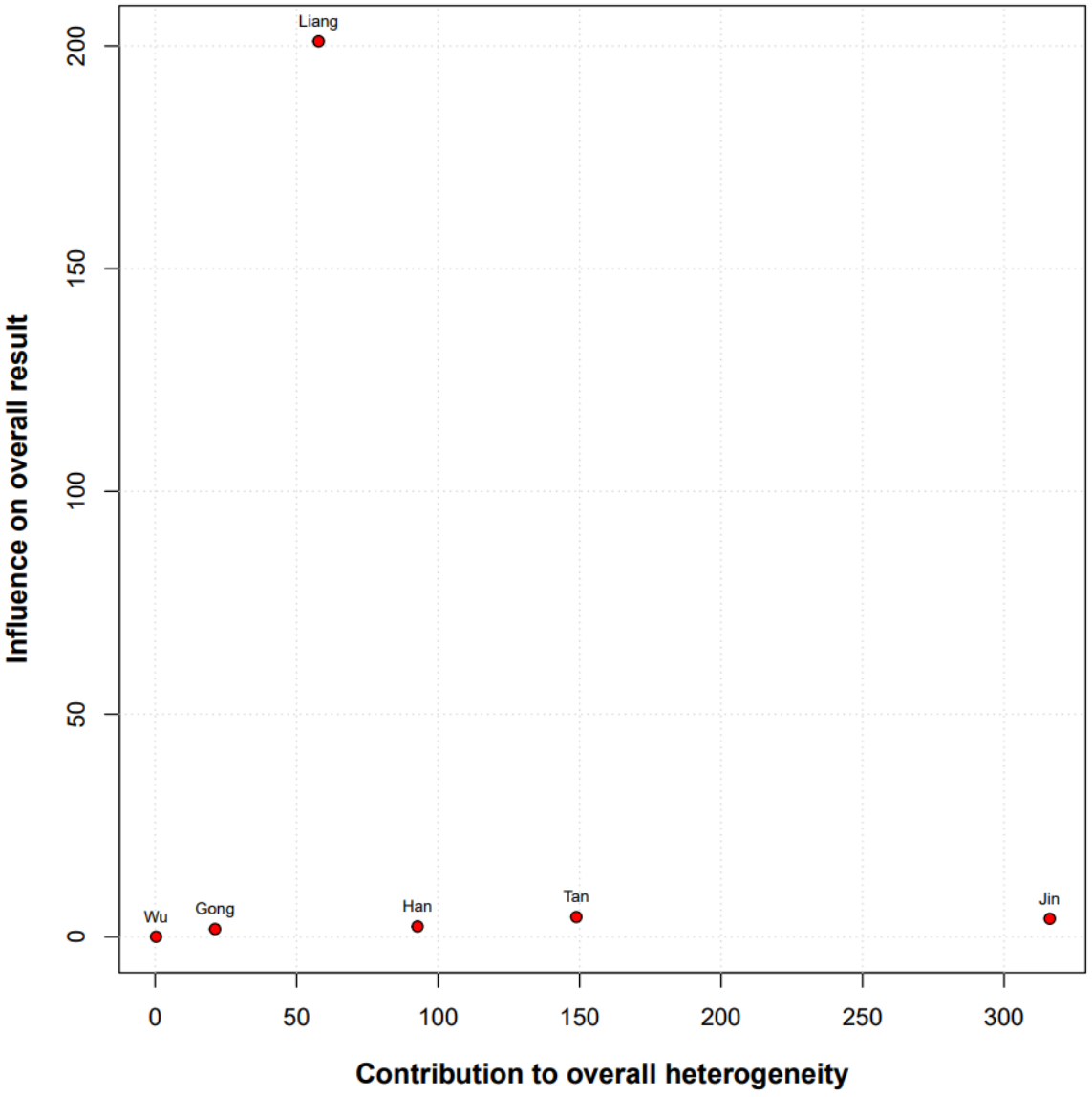
SFigure 58: Surgery time drapery plot



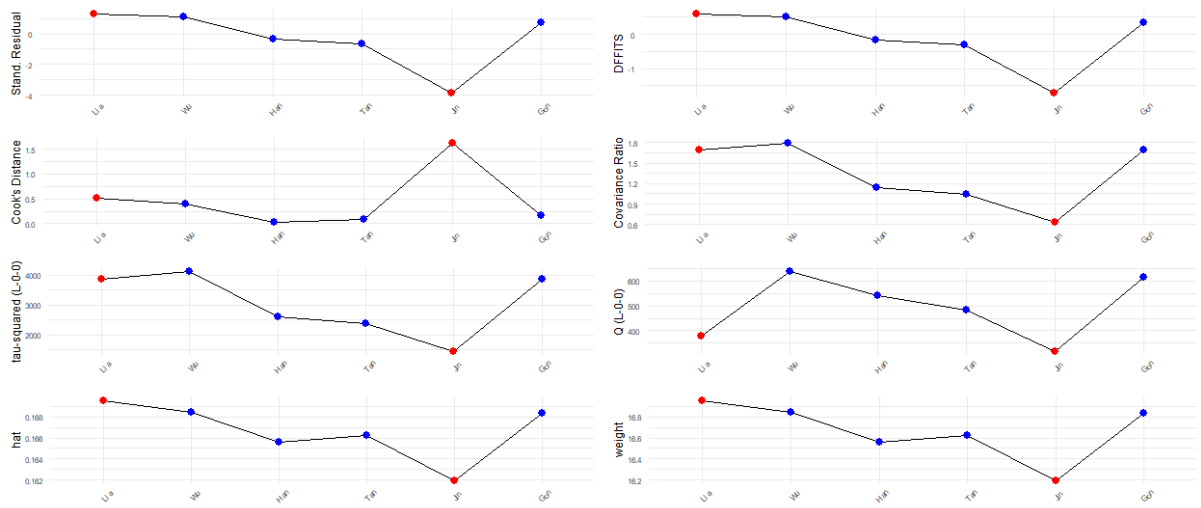
SFigure 59: Surgery time funnel plot



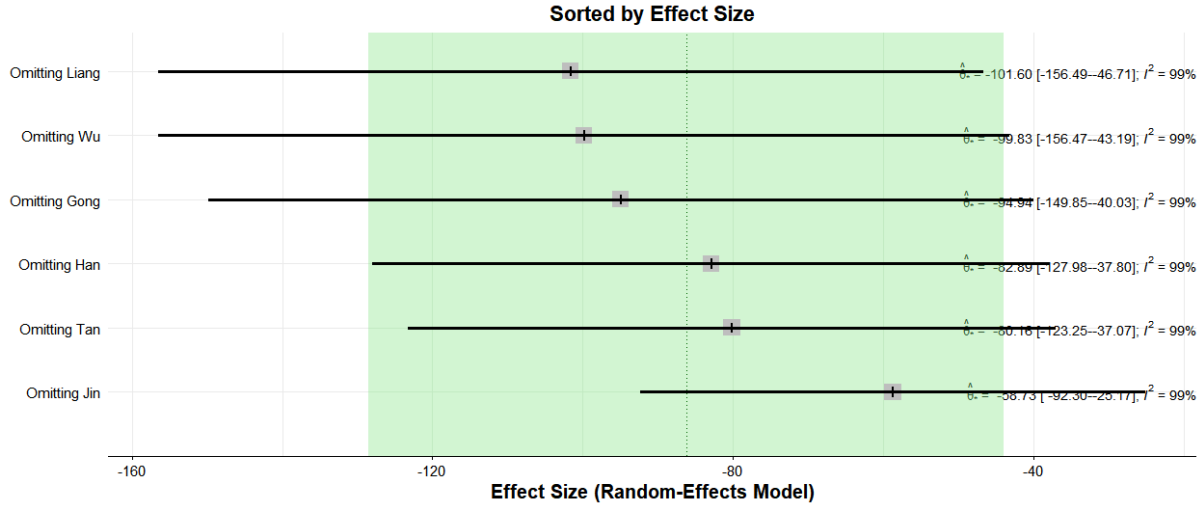
SFigure 60: Surgery time Baujat plot



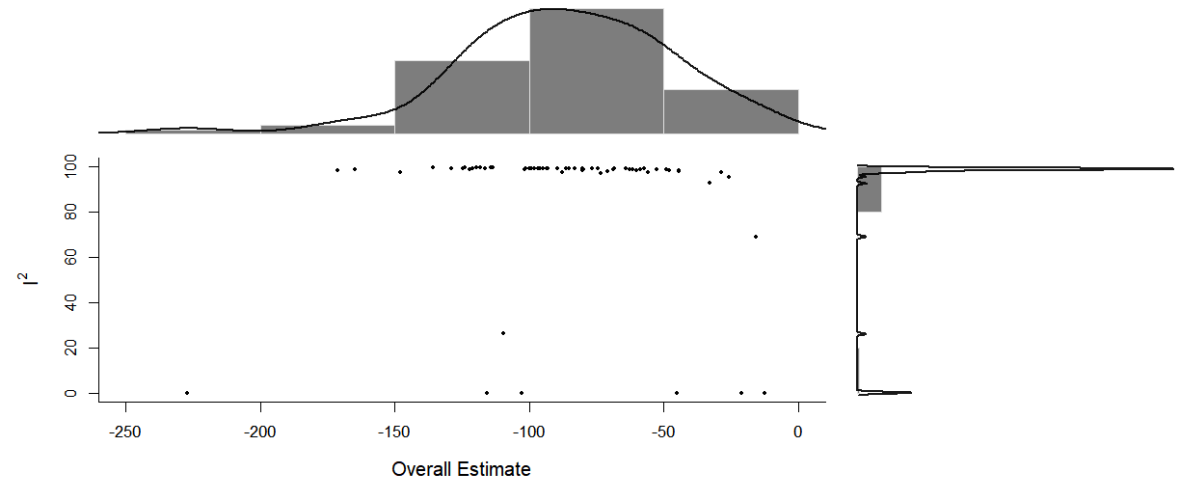
SFigure 61: Surgery time ID



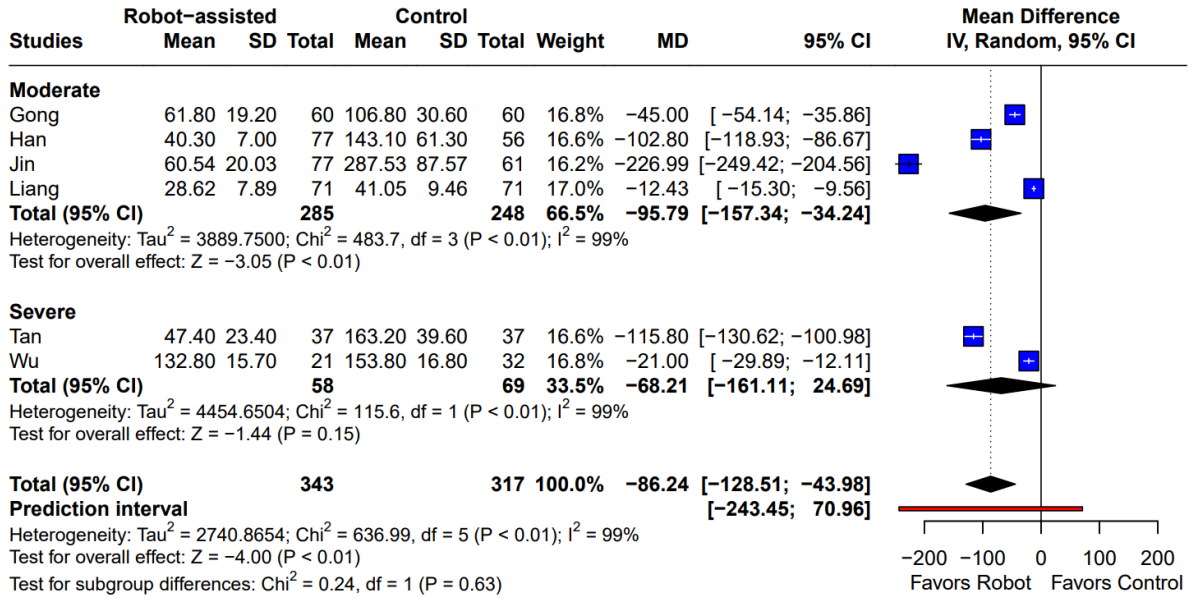
SFigure 62: Leave-one surgery time



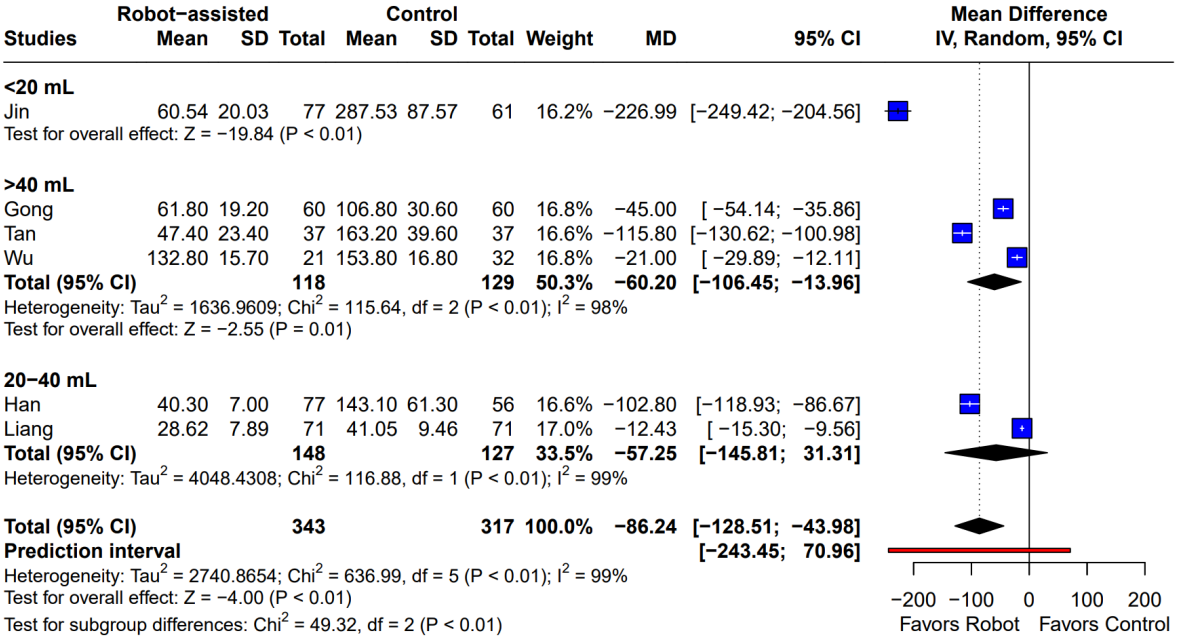
SFigure 63: GOSH surgery time



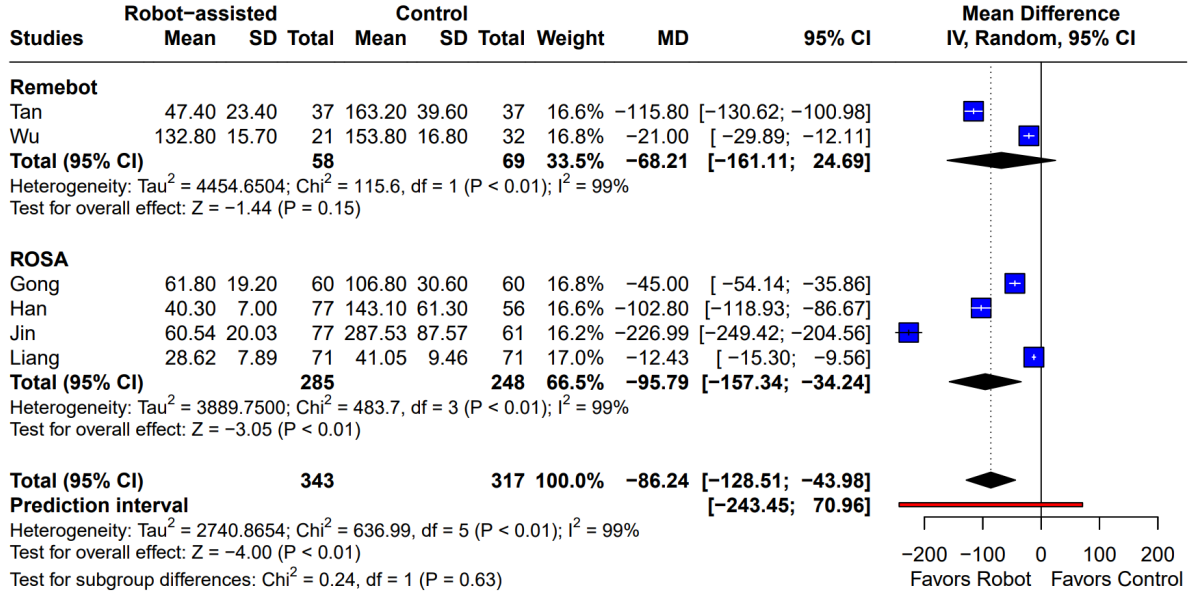
SFigure 64: GCS surgery time



SFigure 65: Hematoma volume surgery time

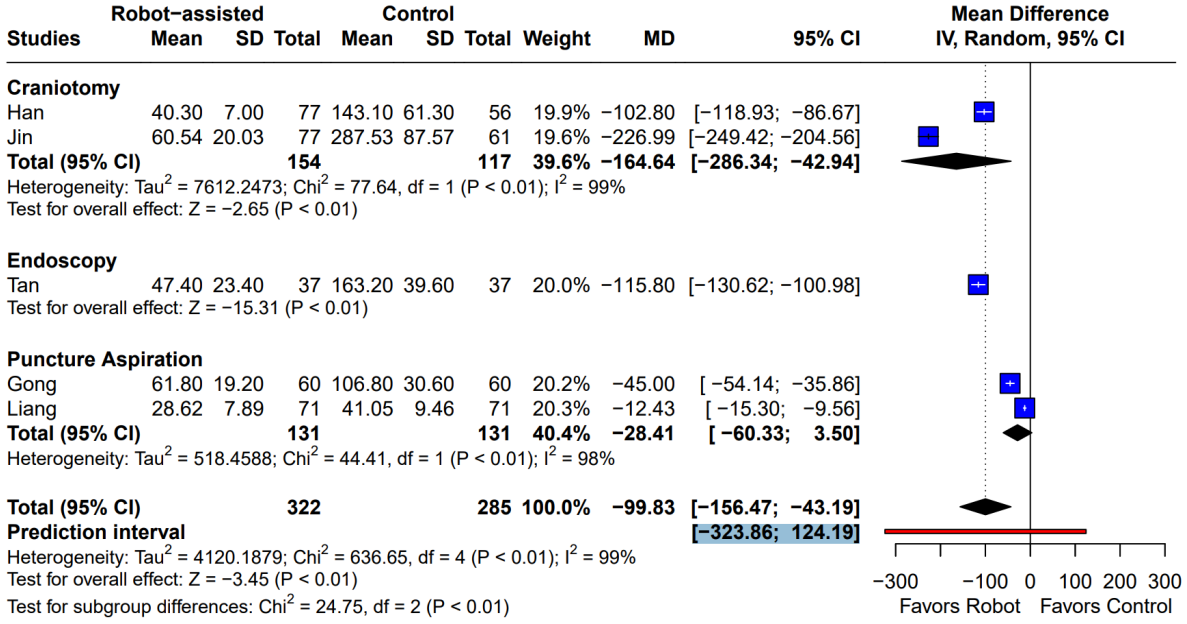


SFigure 66: Robot model surgery time

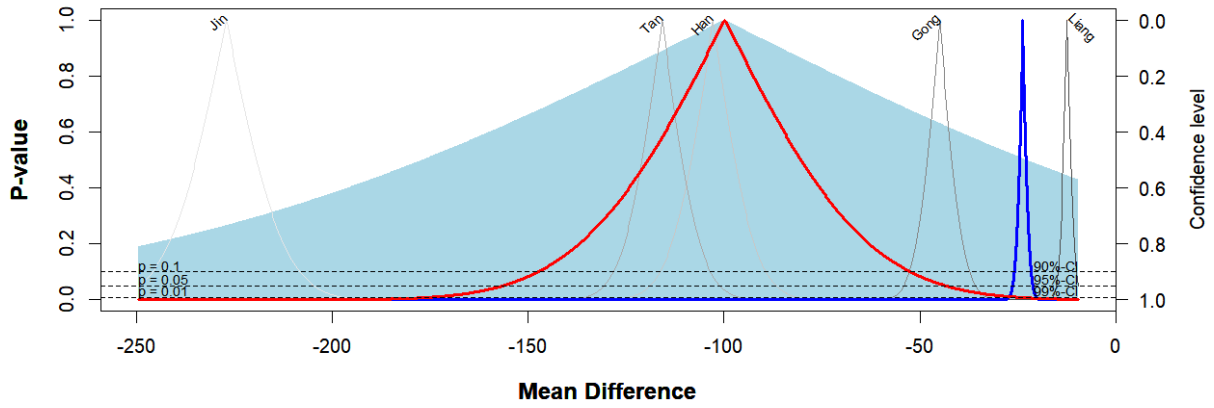


h) PR surgery time sensitivity analysis

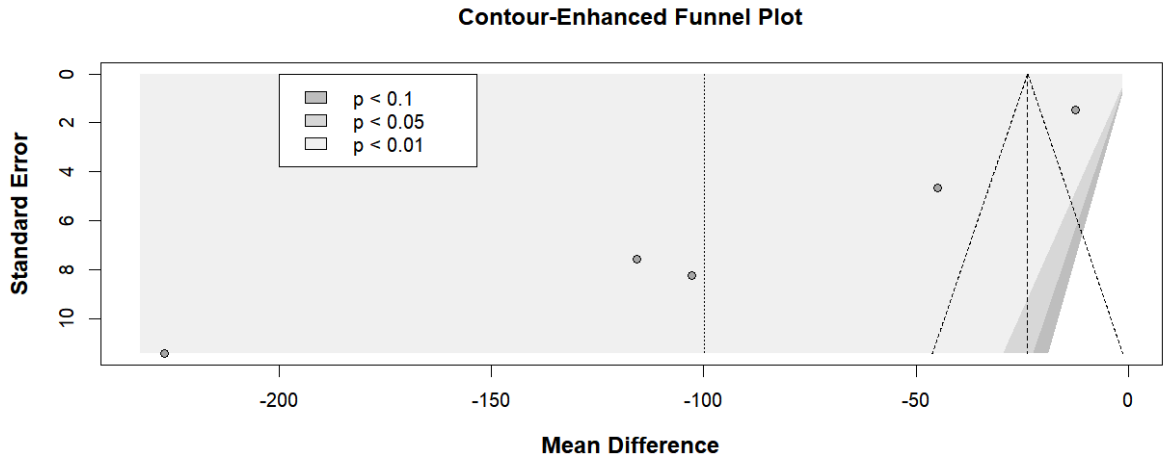
SFigure 67: Control PR surgery time



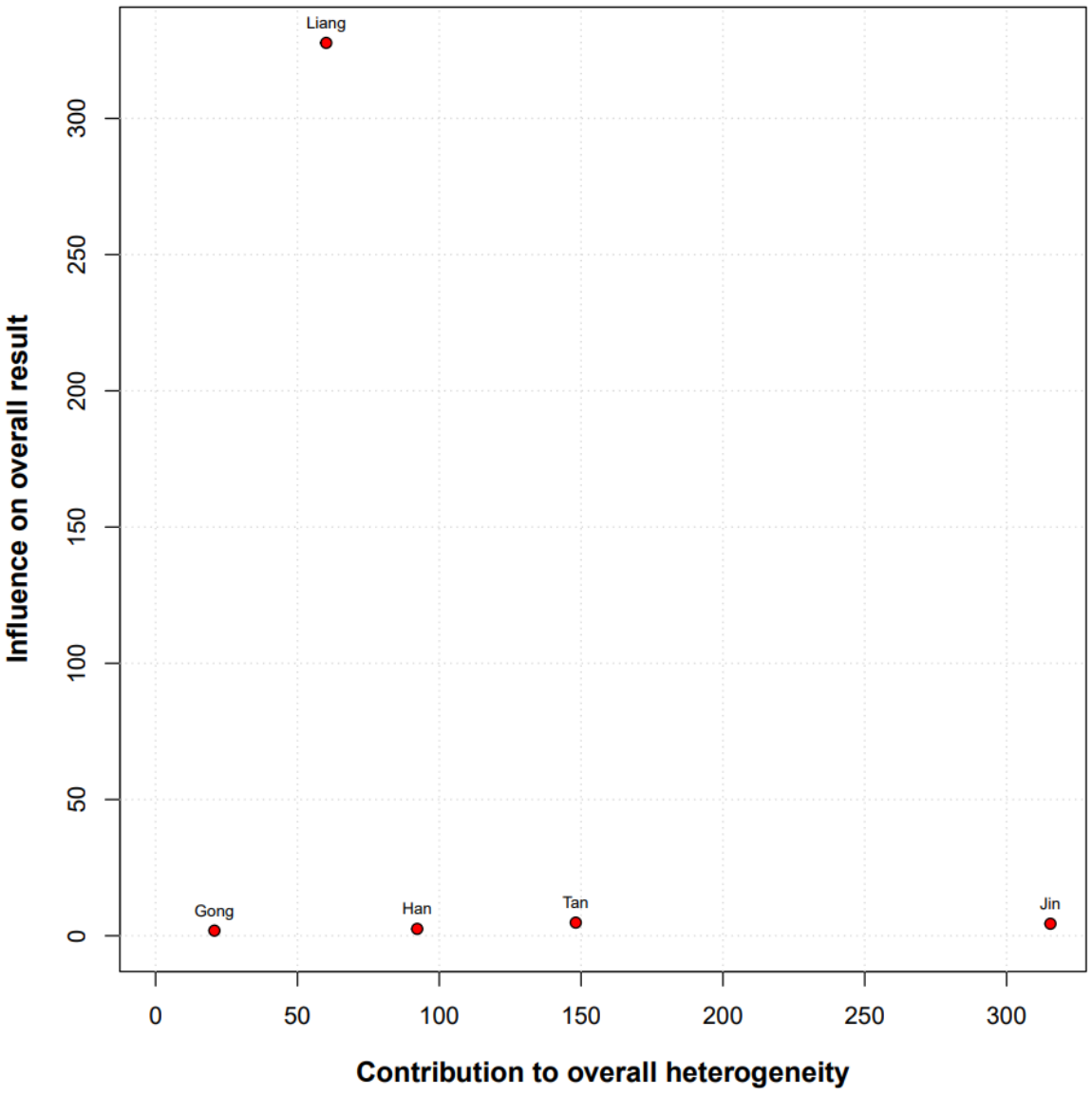
SFigure 68: PR surgery time drapery plot



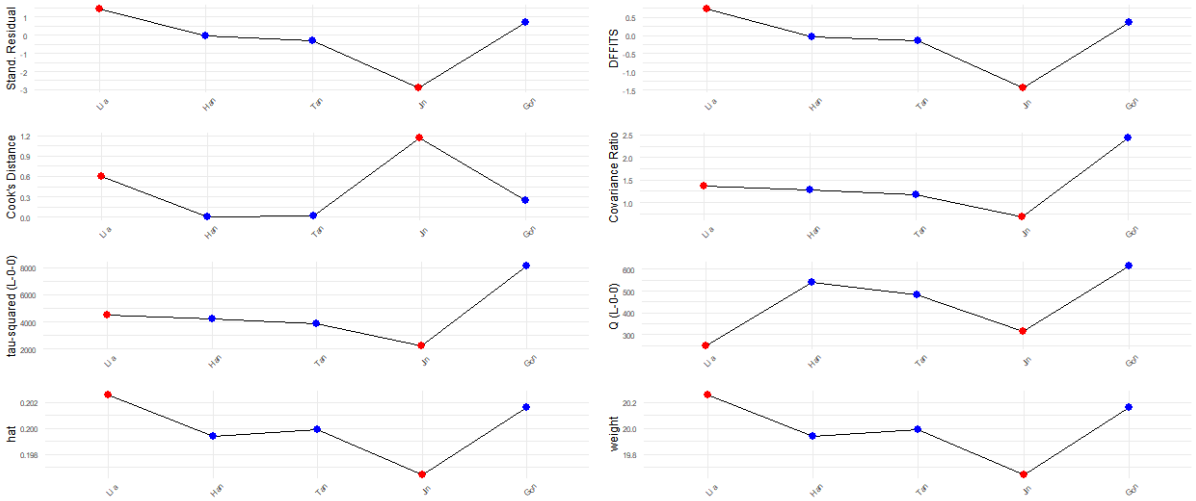
SFigure 69: PR surgery time funnel plot



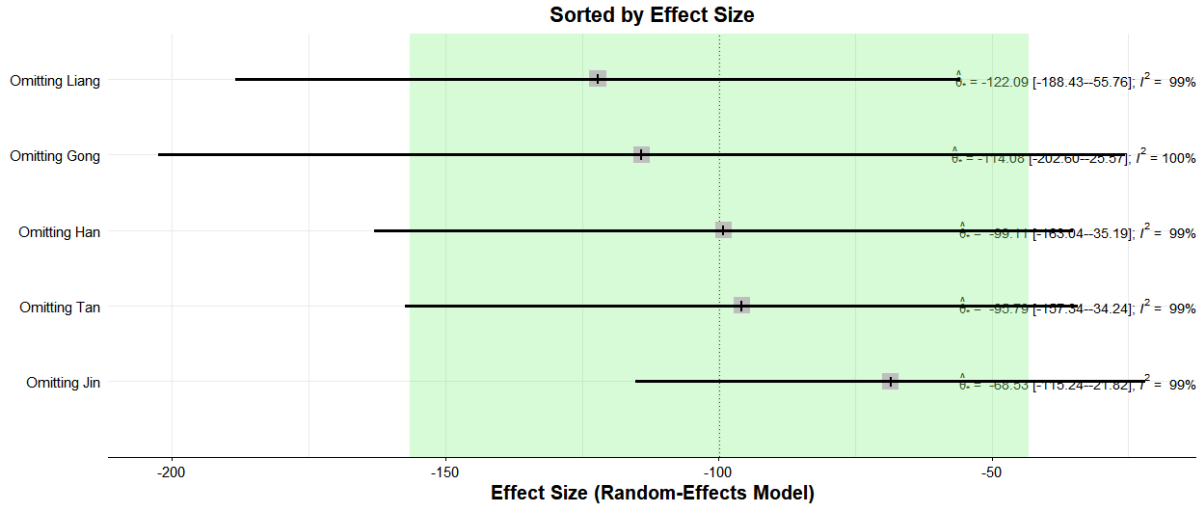
SFigure 70: PR surgery time Baujat plot



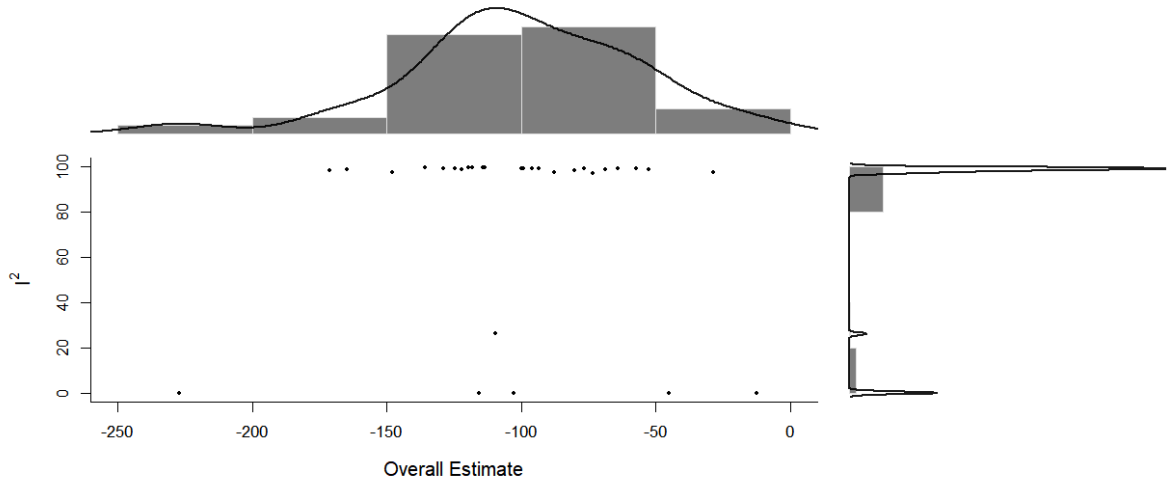
SFigure 71: PR surgery time ID



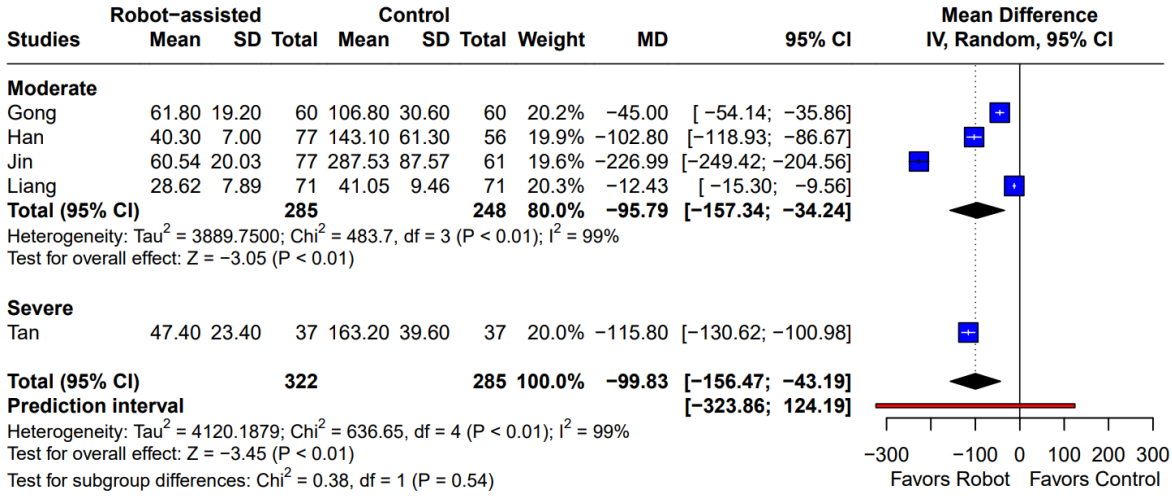
SFigure 72: Leave-one PR surgery time



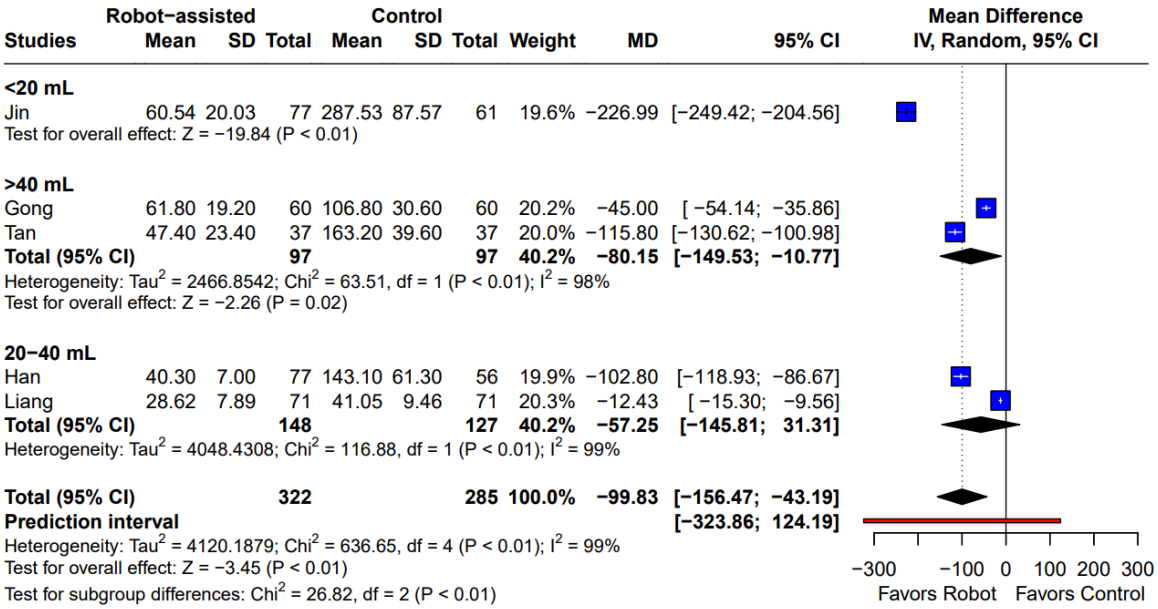
SFigure 73: GOSH PR surgery time



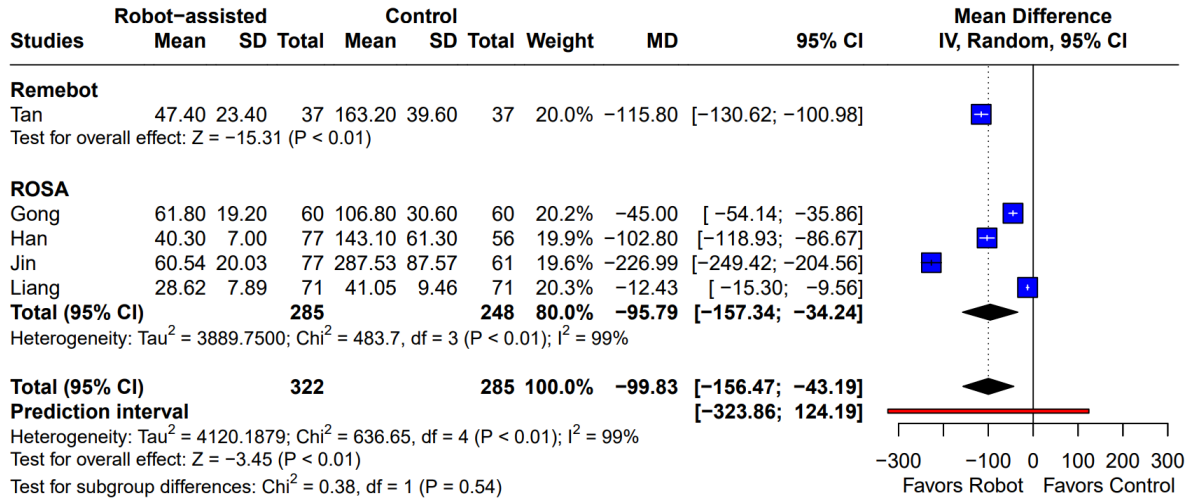
SFigure 74: GCS PR surgery time



SFigure 75: Hematoma volume PR surgery time

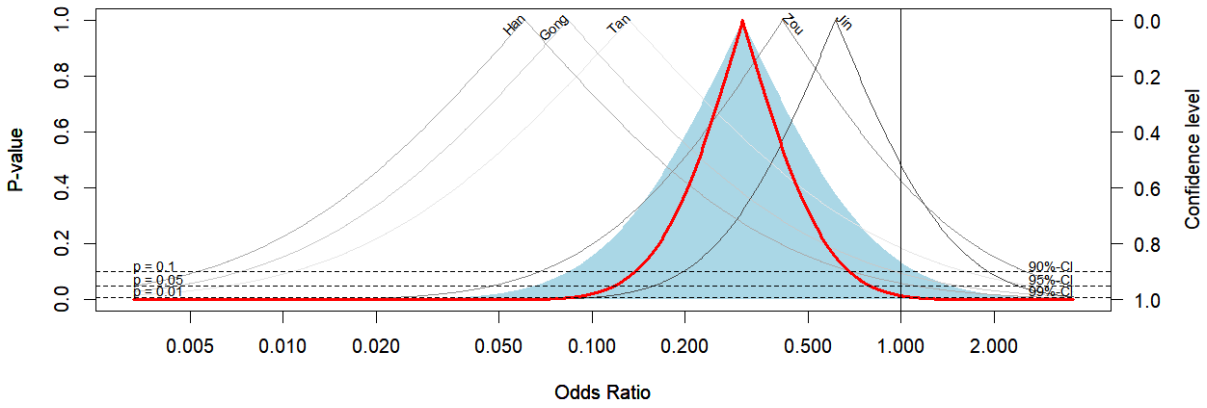


SFigure 76: Robot model PR surgery time

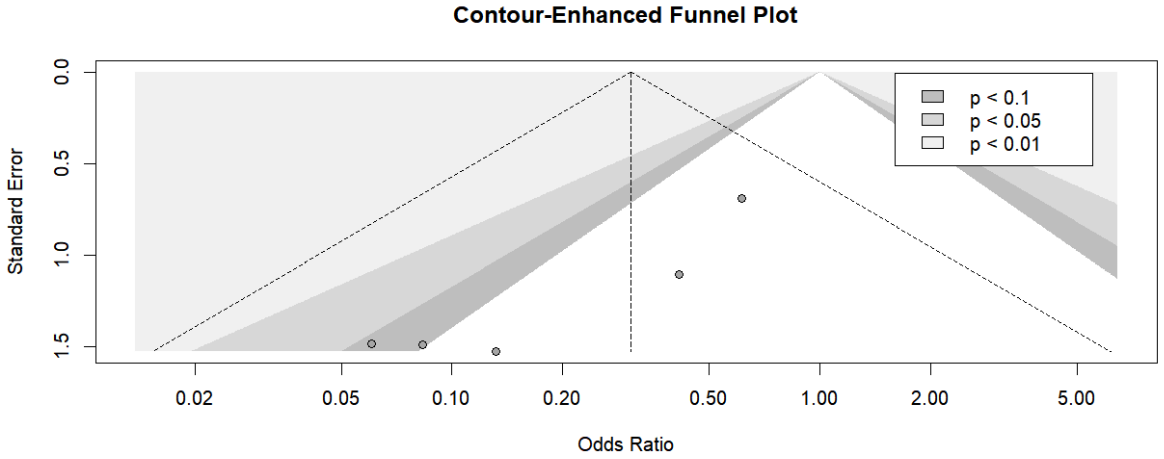


i) Intracranial Infection

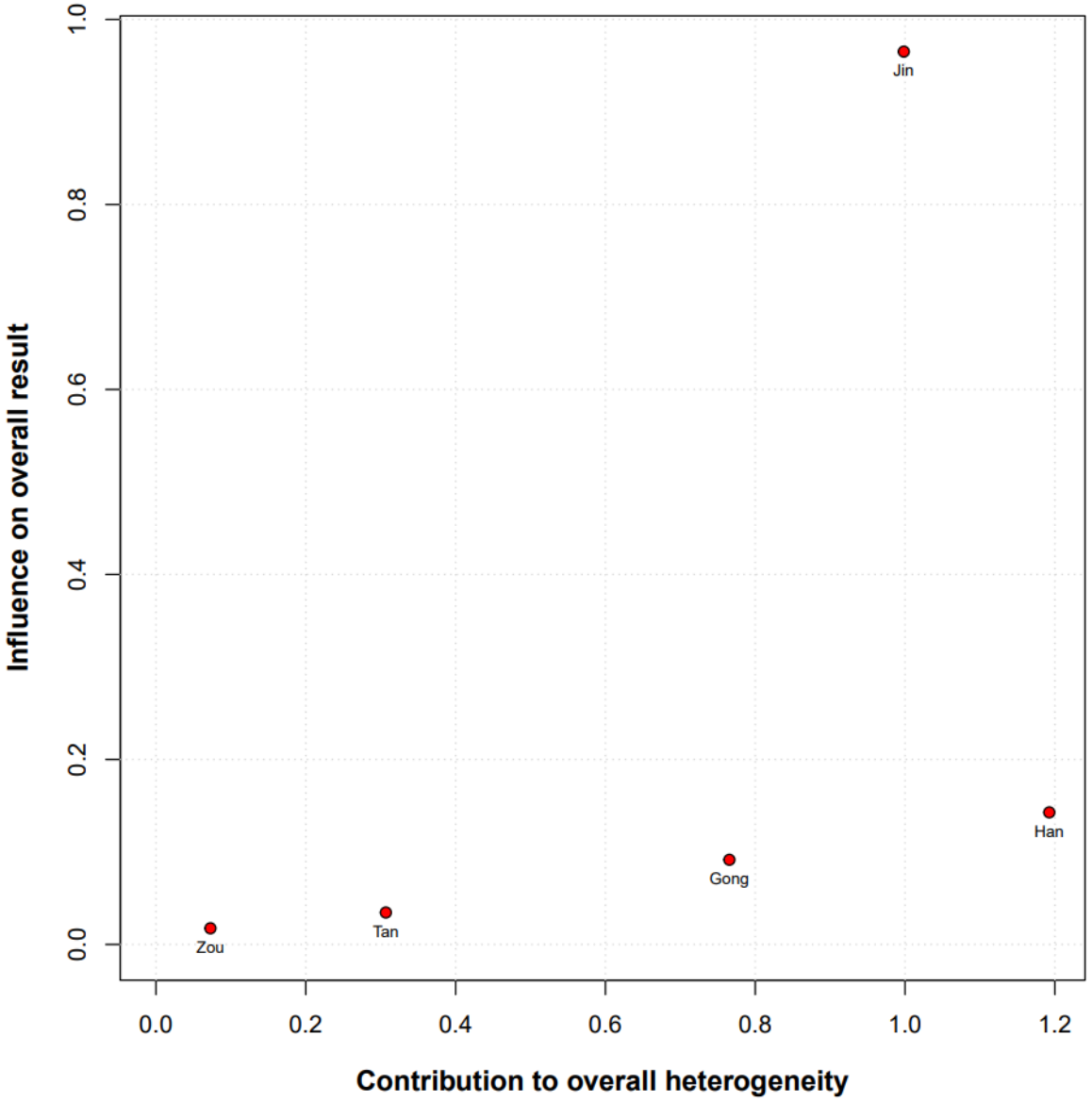
SFigure 77: Intracranial infection drapery plot



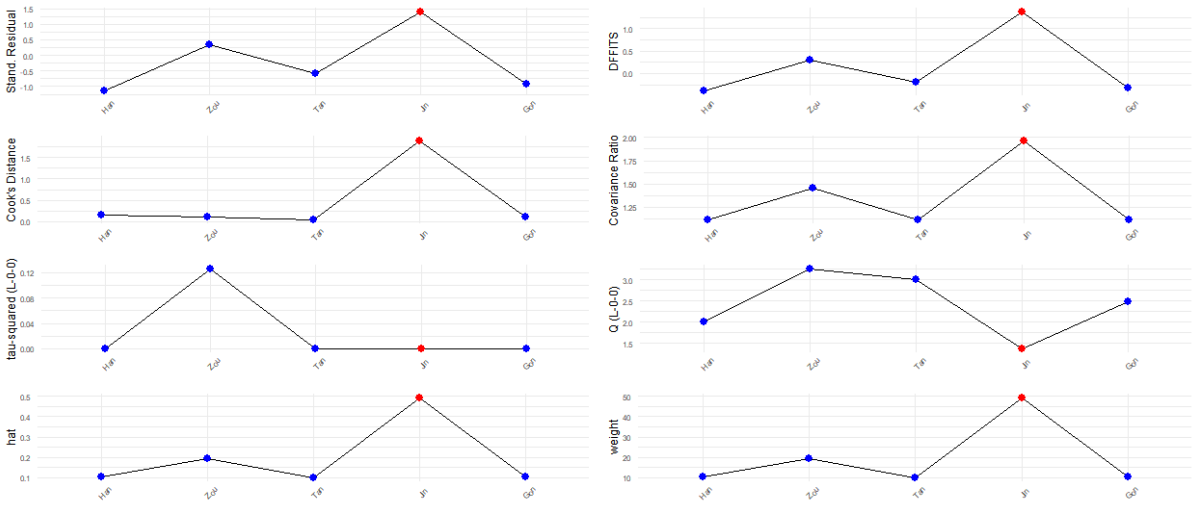
SFigure 78: Intracranial infection funnel plot



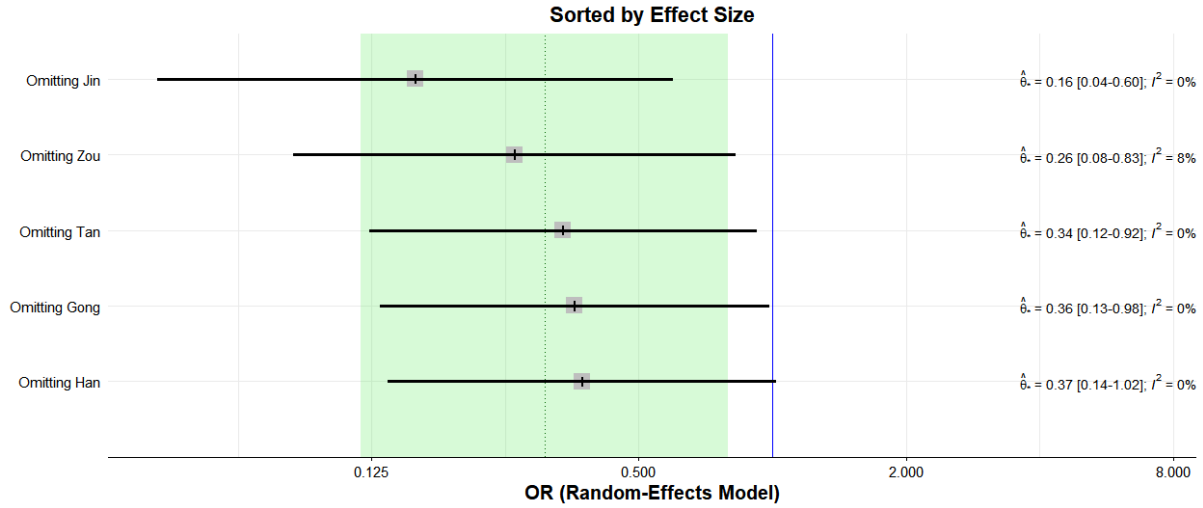
SFigure 79: Intracranial infection Baujat plot



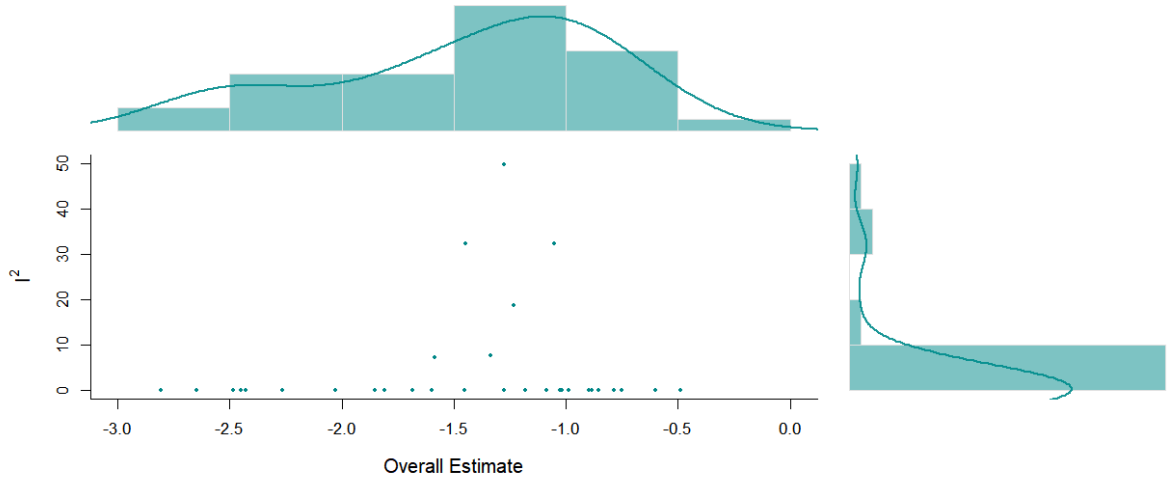
SFigure 80: Intracranial infection ID



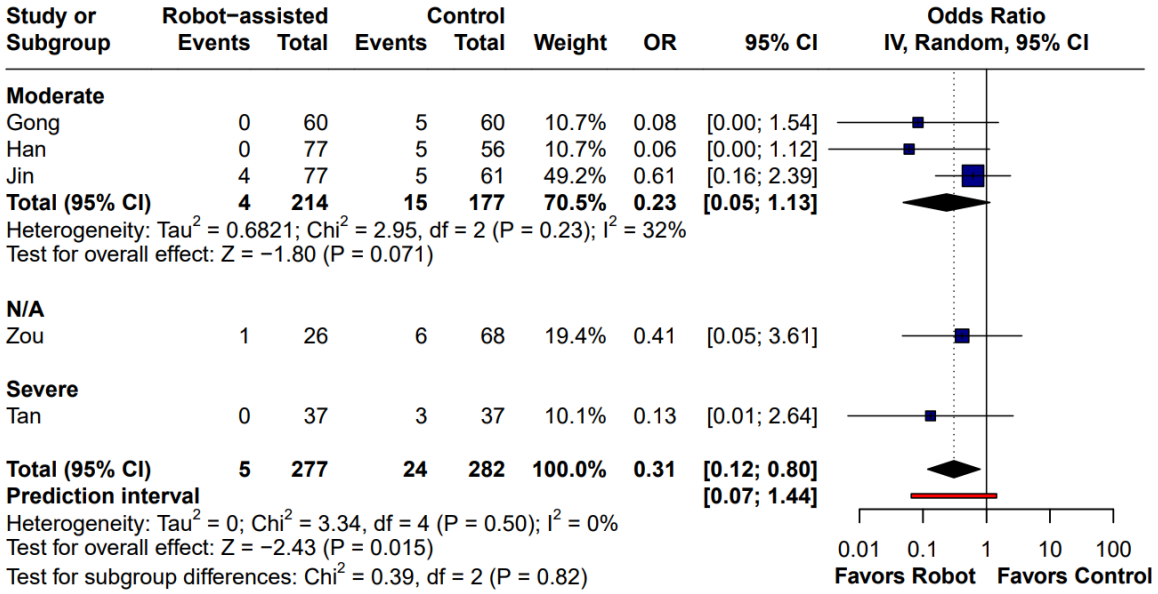
SFigure 81: Leave-one out intracranial infection



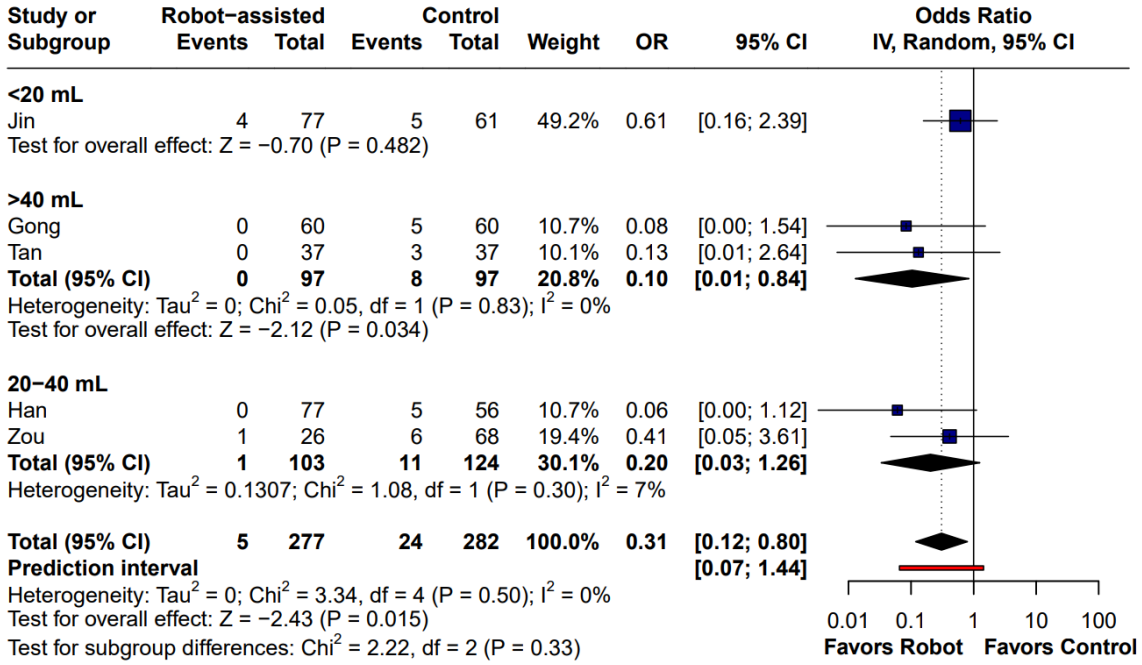
SFigure 82: GOSH intracranial infection



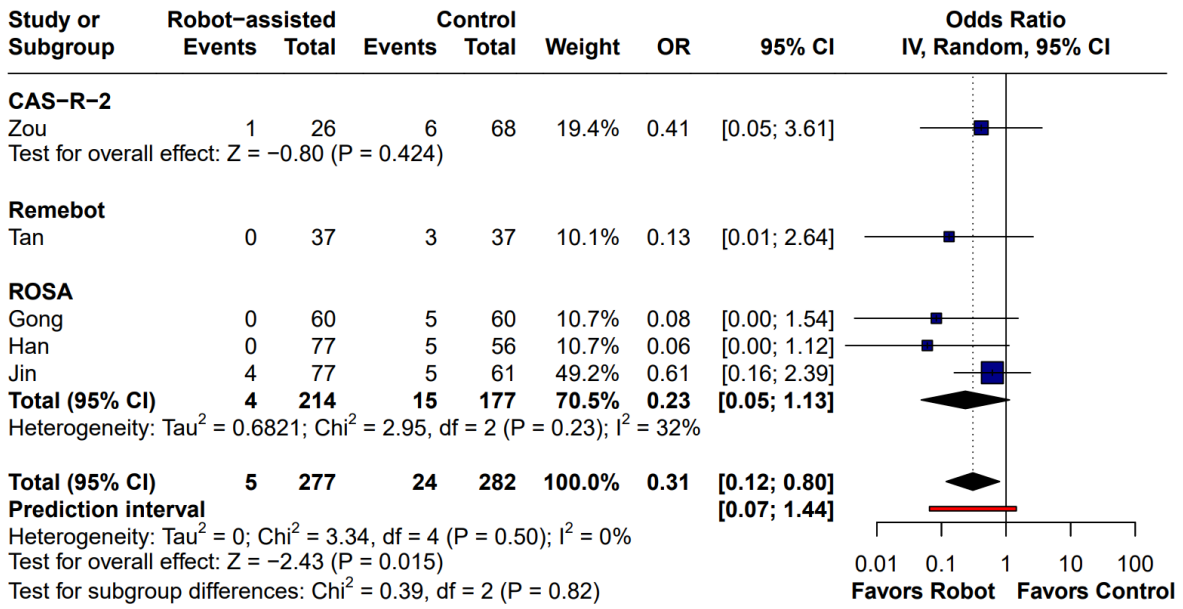
SFigure 83: GCS intracranial infection



SFigure 84: Hematoma volume intracranial infection

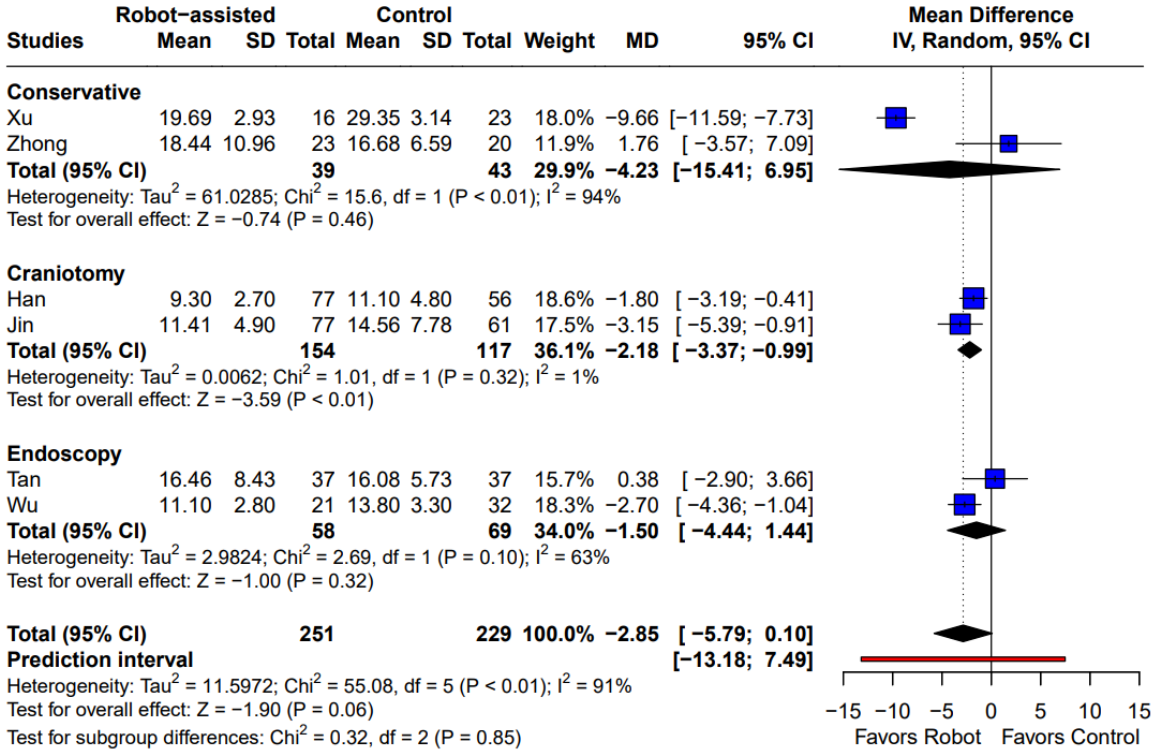


SFigure 85: Robot model intracranial infection

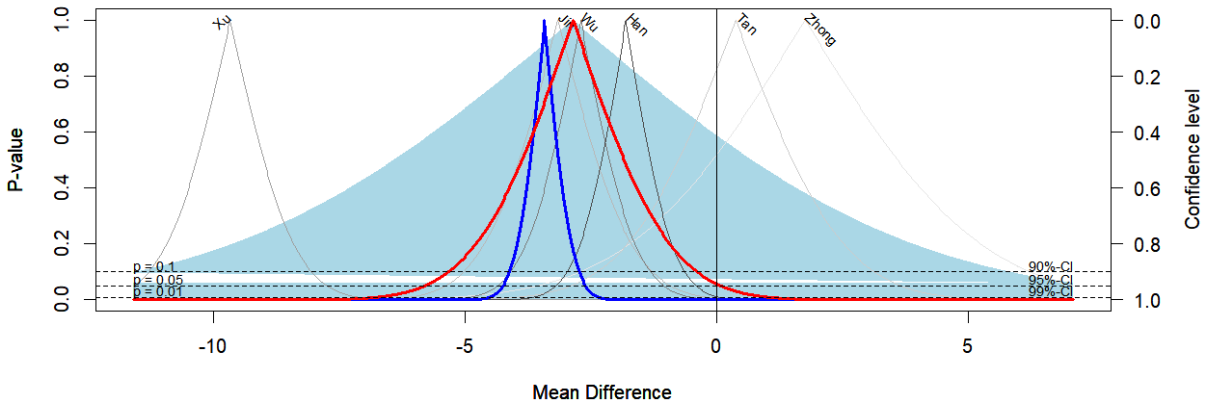


j) Hospital stay

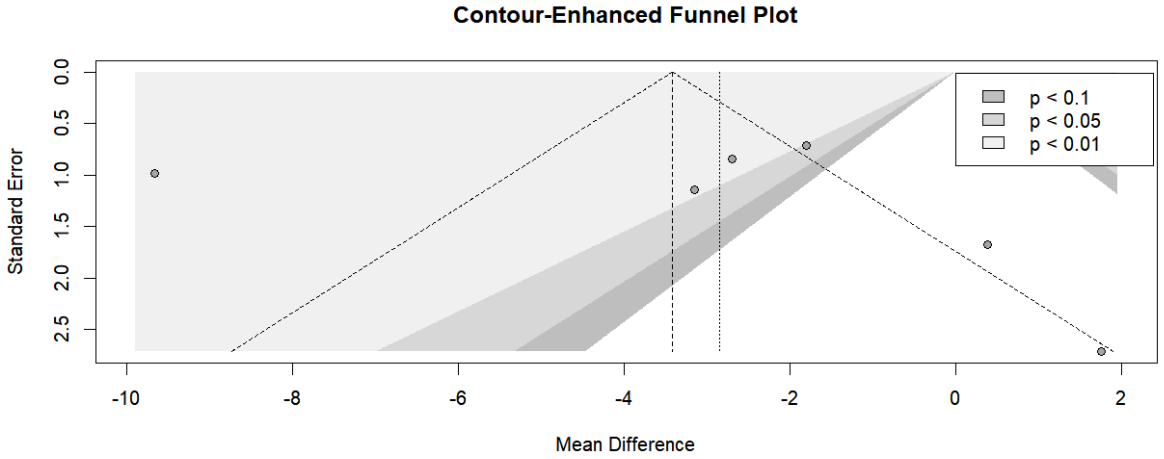
SFigure 86: Control hospital stay



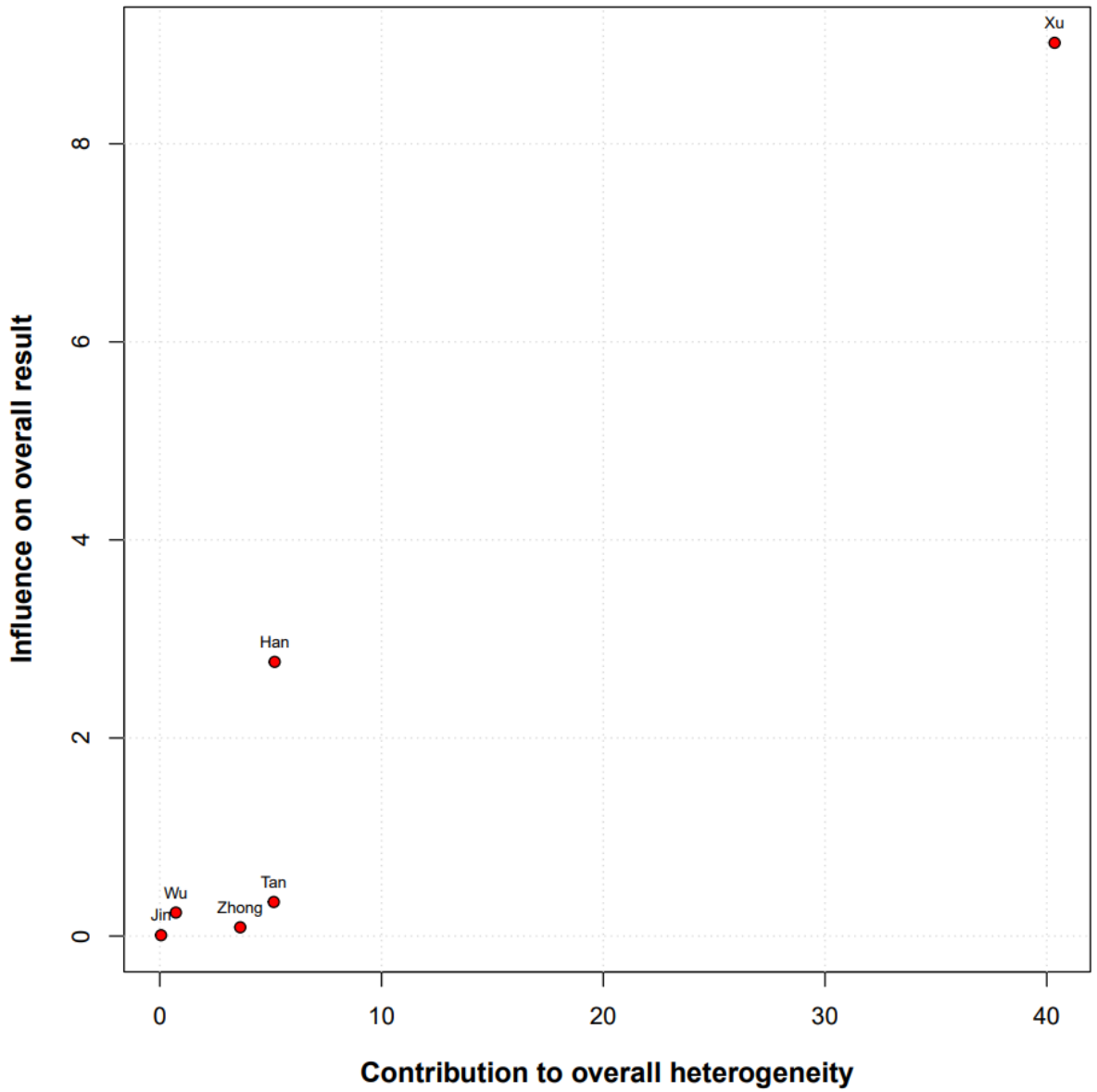
SFigure 87: Hospital stay drapery plot



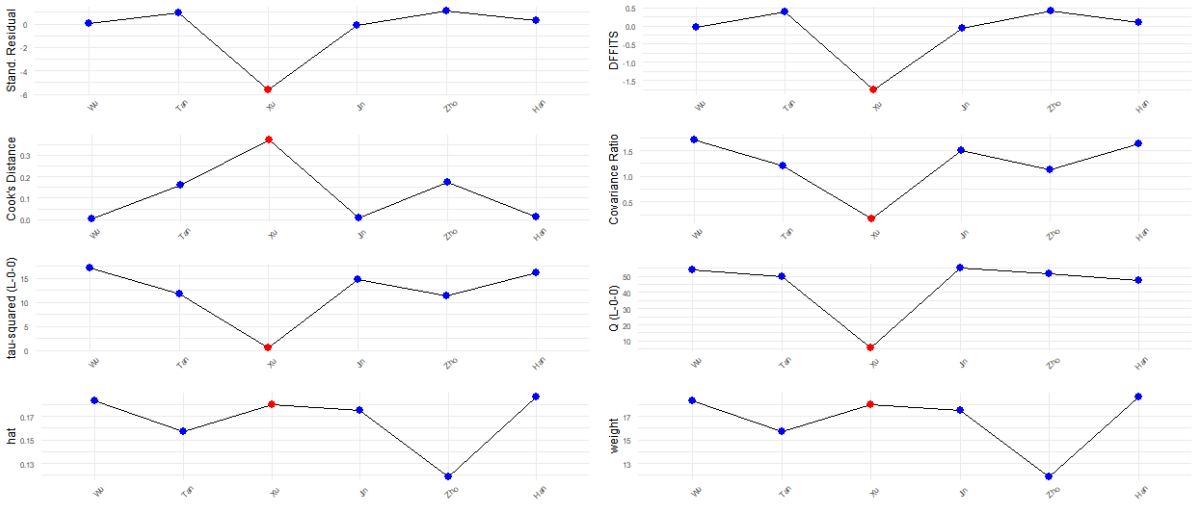
SFigure 88: Hospital stay funnel plot



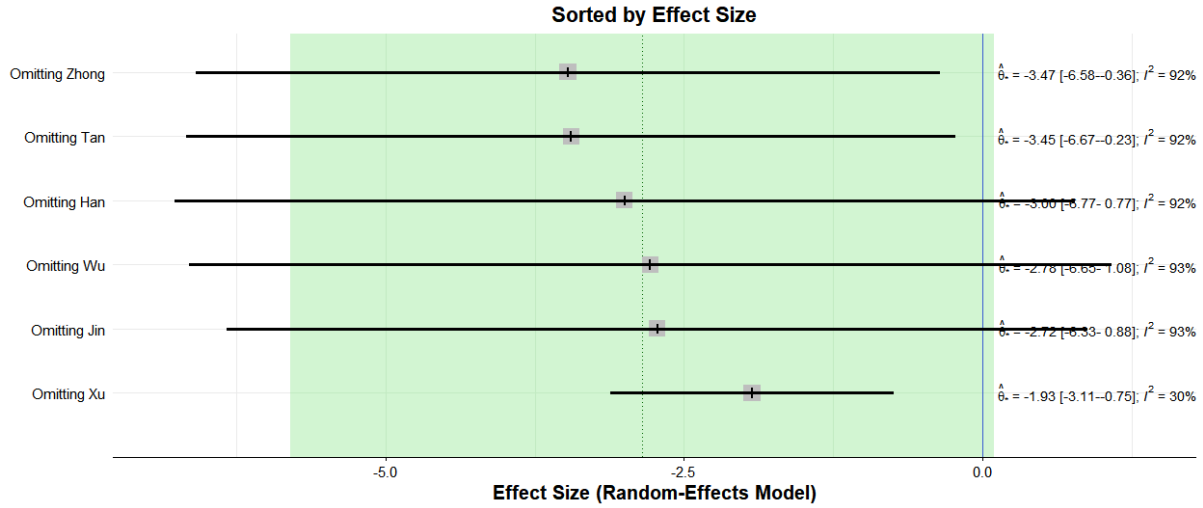
SFigure 89: Hospital stay Baujat plot



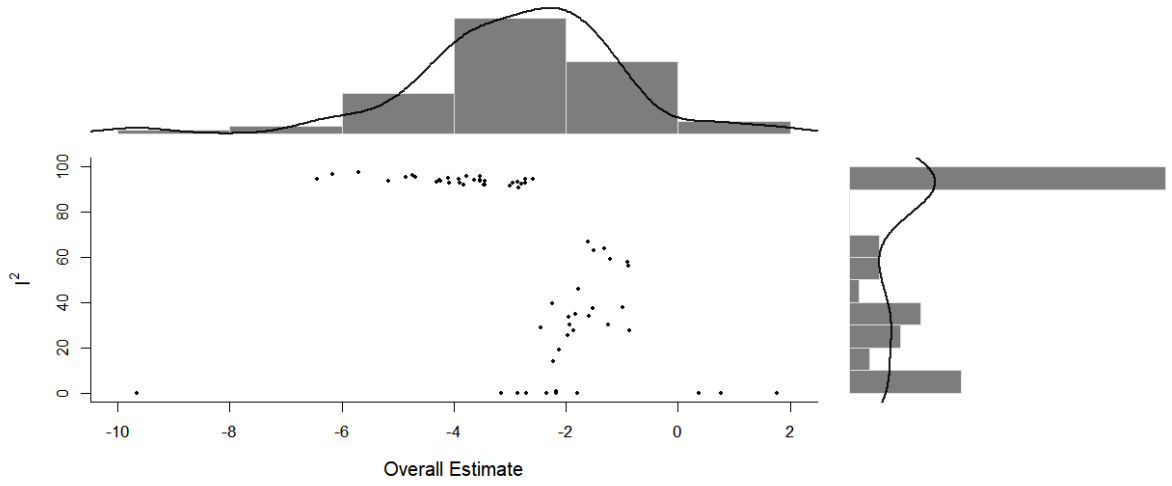
SFigure 90: Hospital stay ID



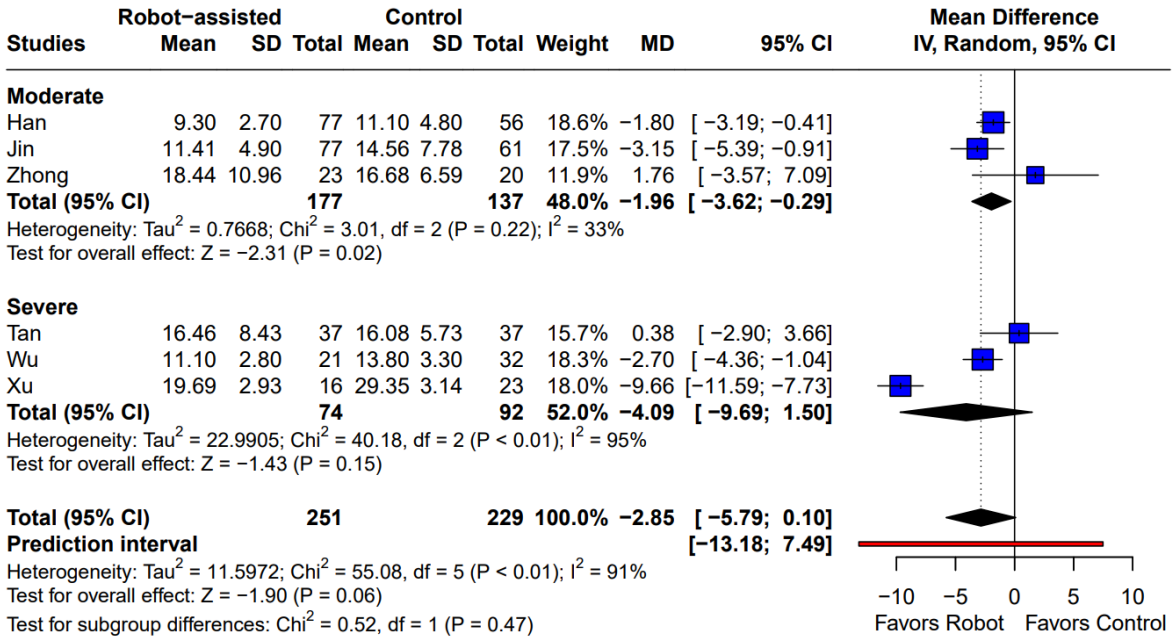
SFigure 91: Leave-one out hospital stay



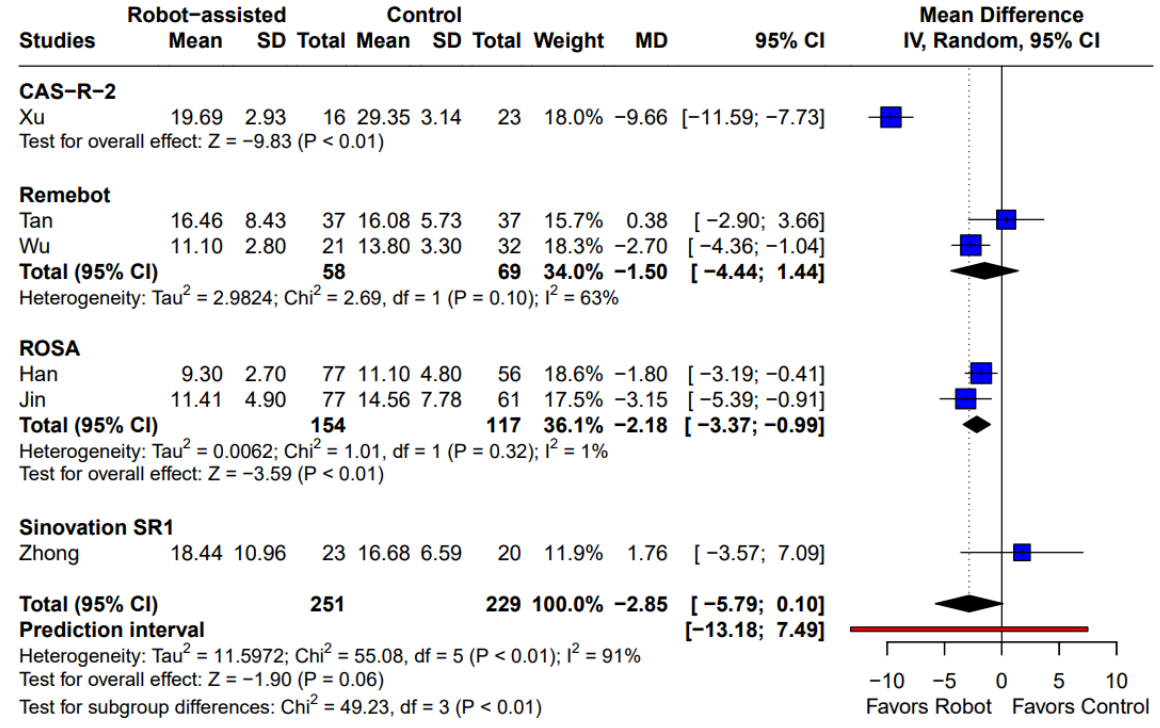
SFigure 92: GOSH hospital stay



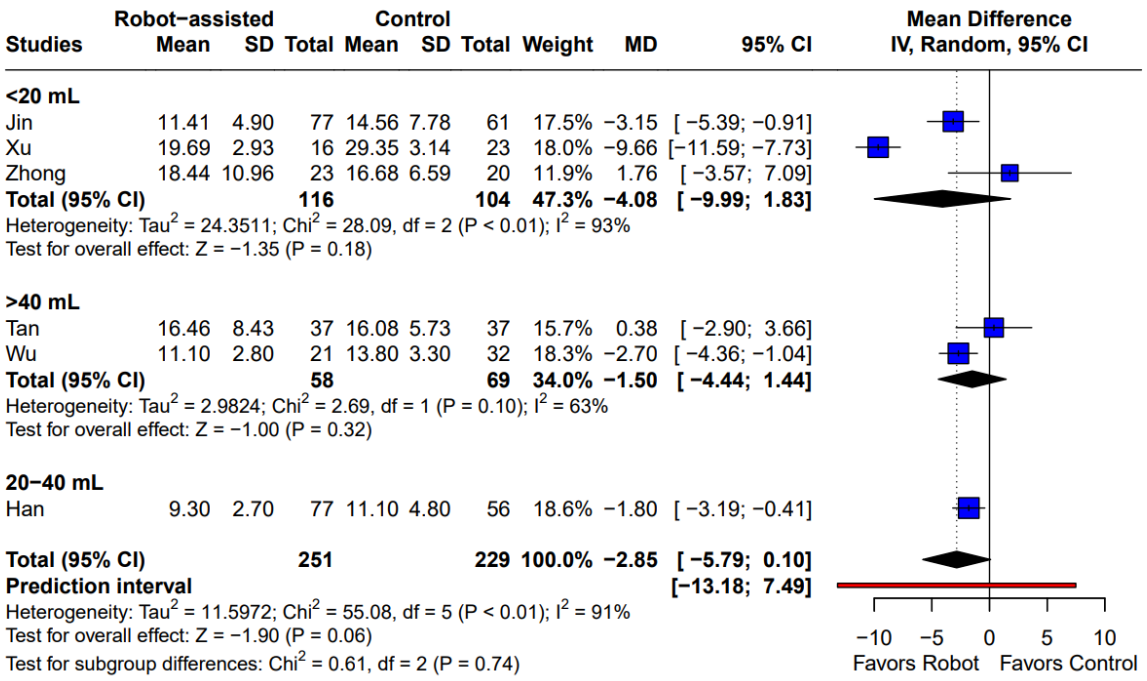
SFigure 93: GCS hospital stay



SFigure 94: Robot model hospital stay

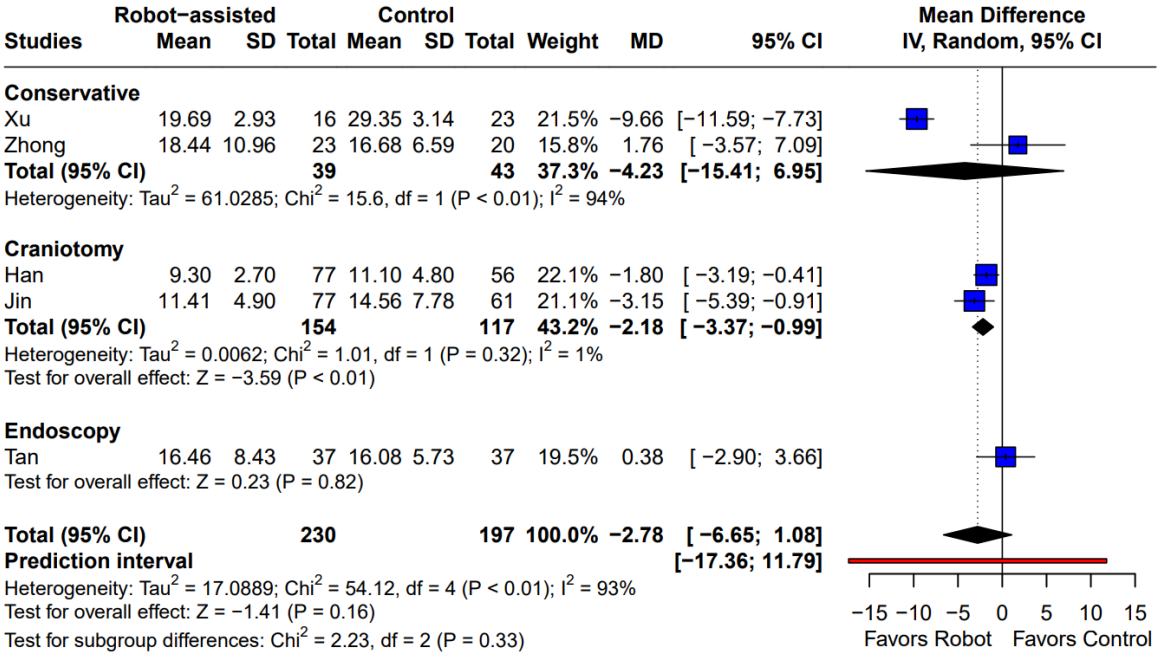


SFigure 95: Hematoma volume hospital stay

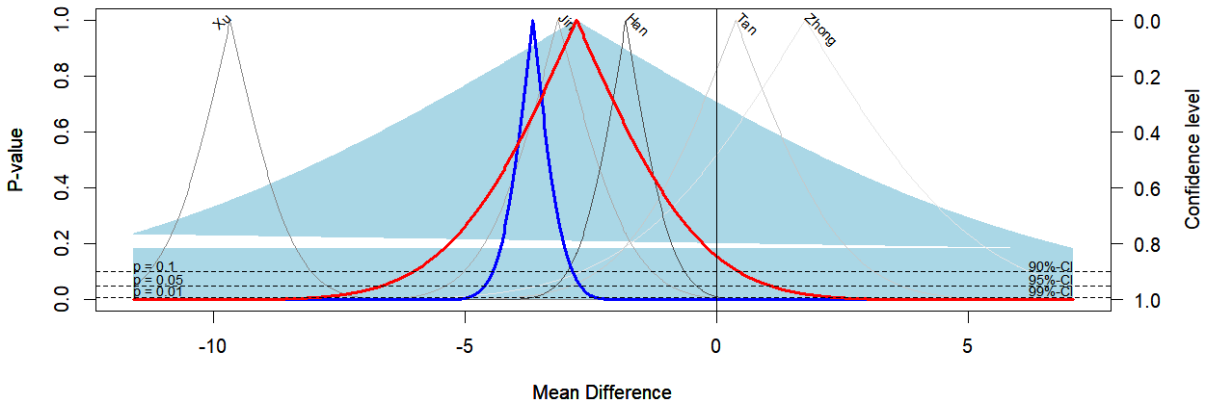


k) Hospital stay PR

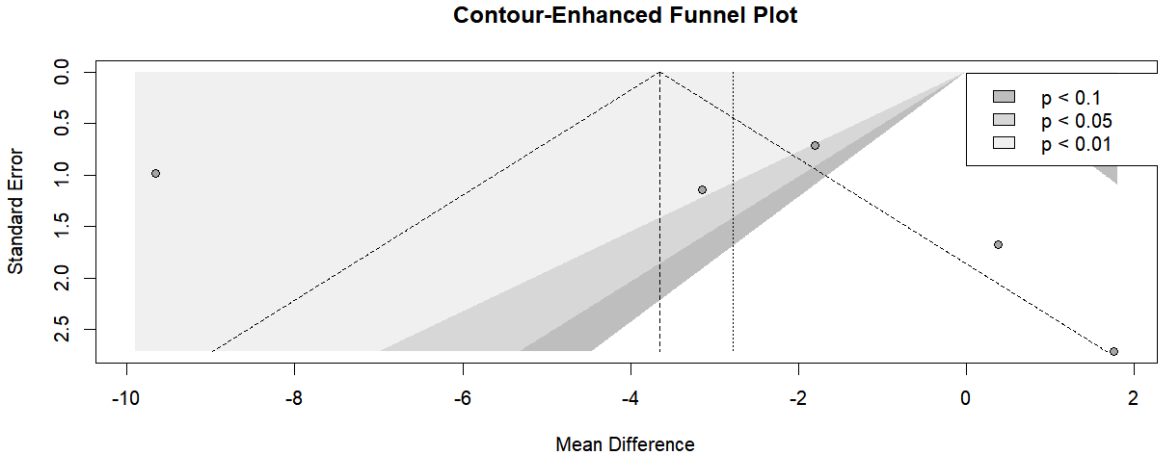
SFigure 96: Control PR hospital stay



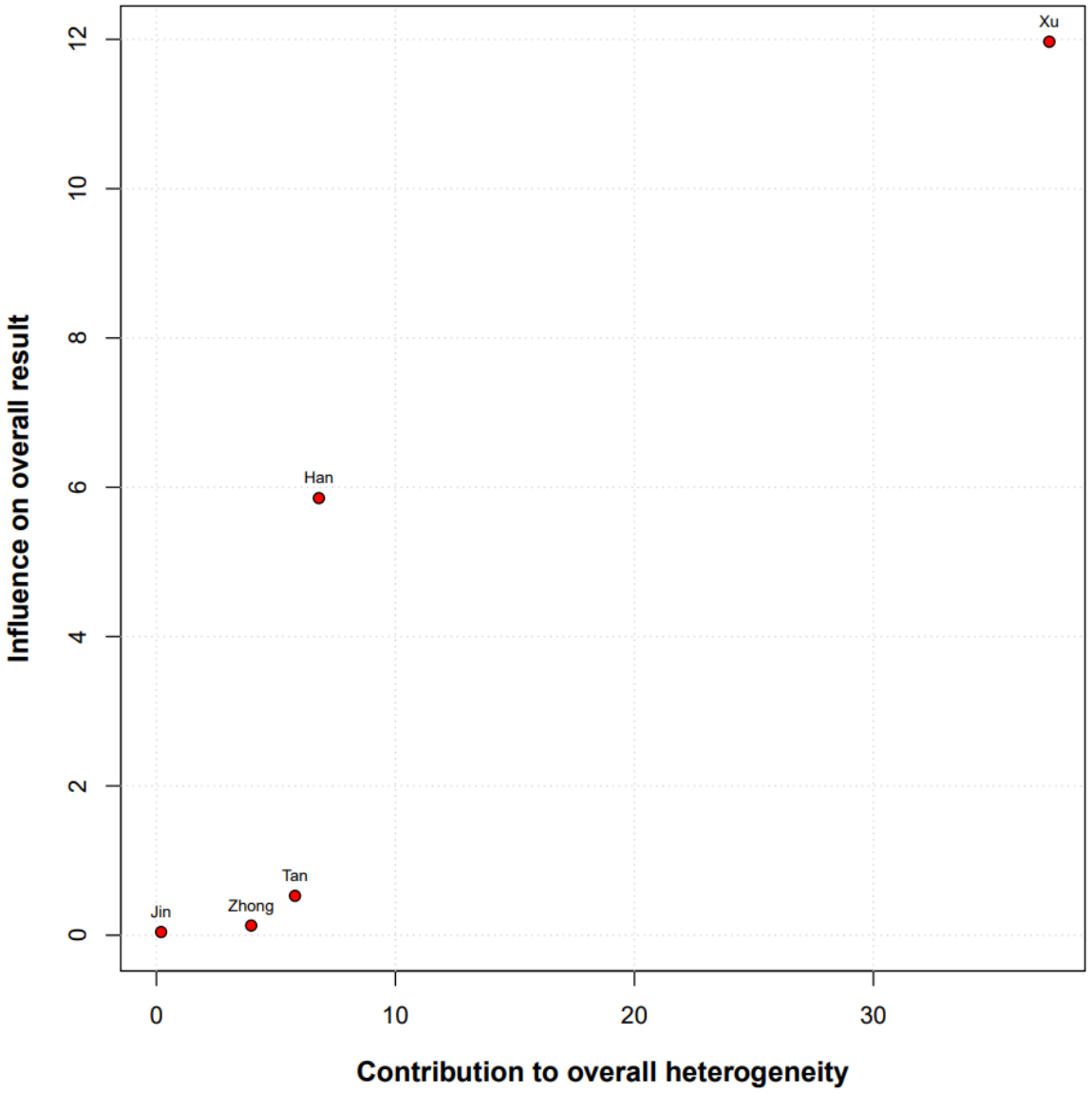
SFigure 97: PR hospital stay drapery plot



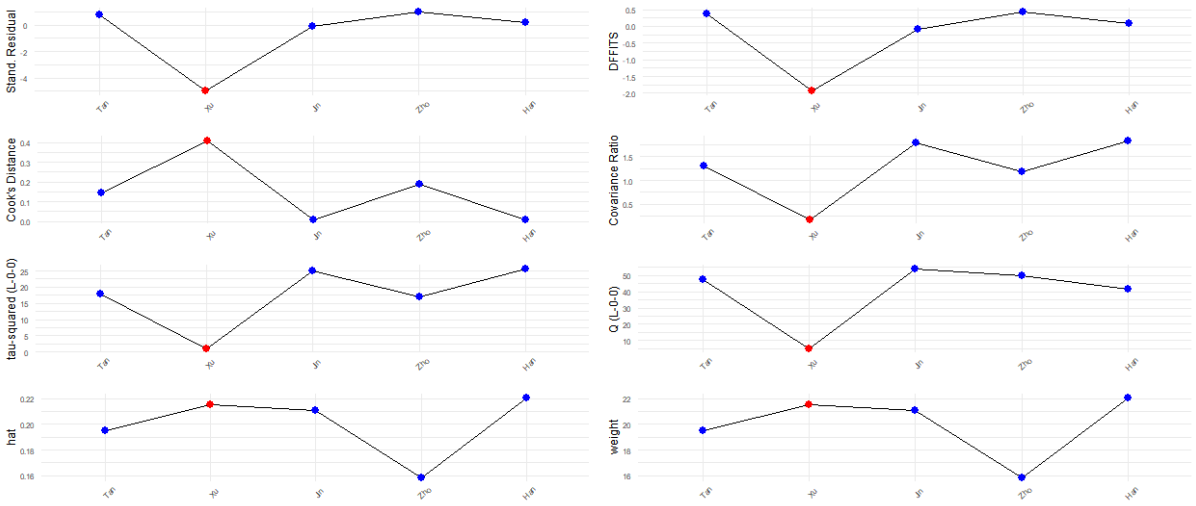
SFigure 98: PR hospital stay funnel plot



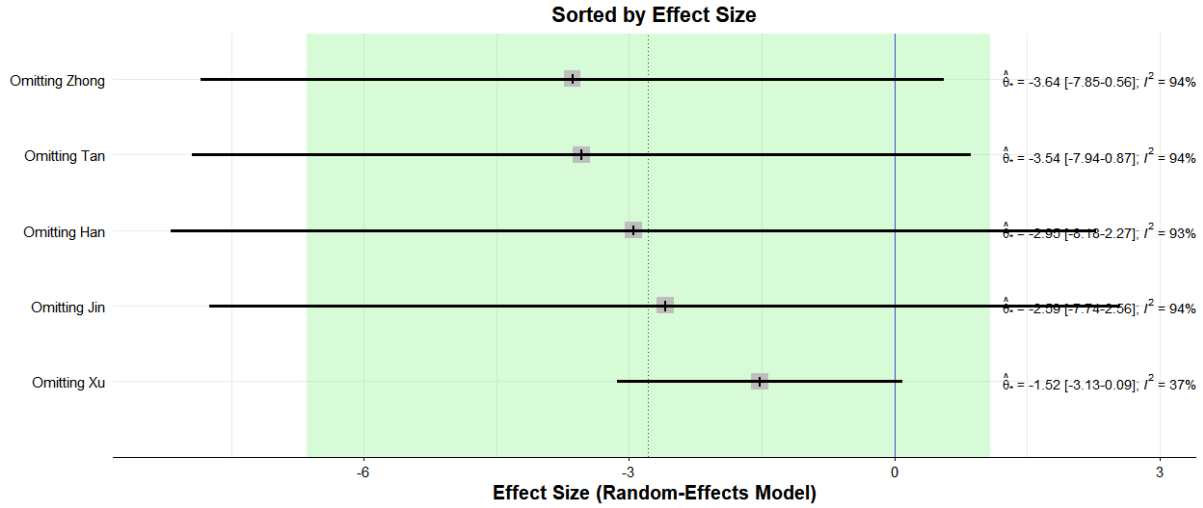
SFigure 99: PR hospital stay Baujat plot



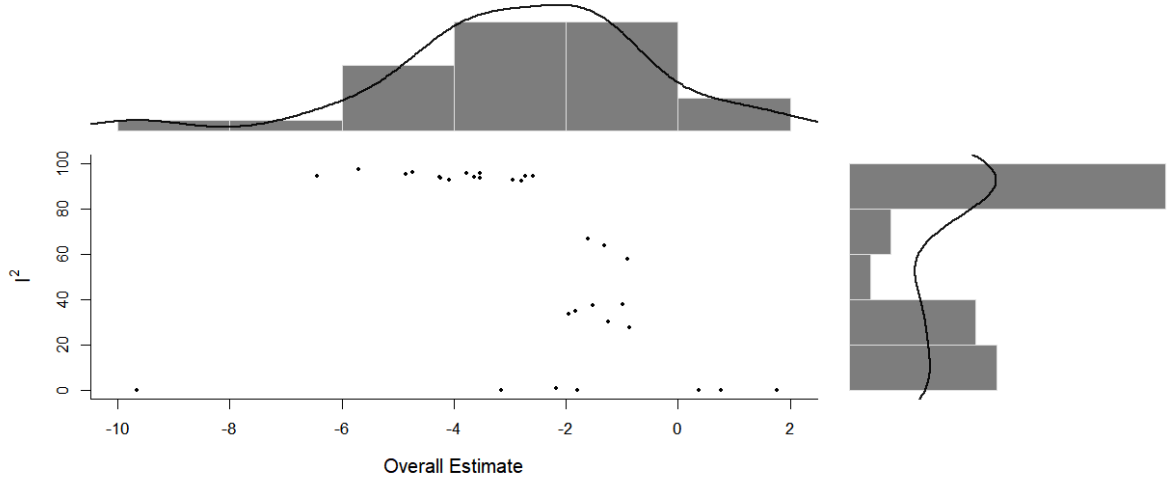
SFigure 100: PR hospital stay ID



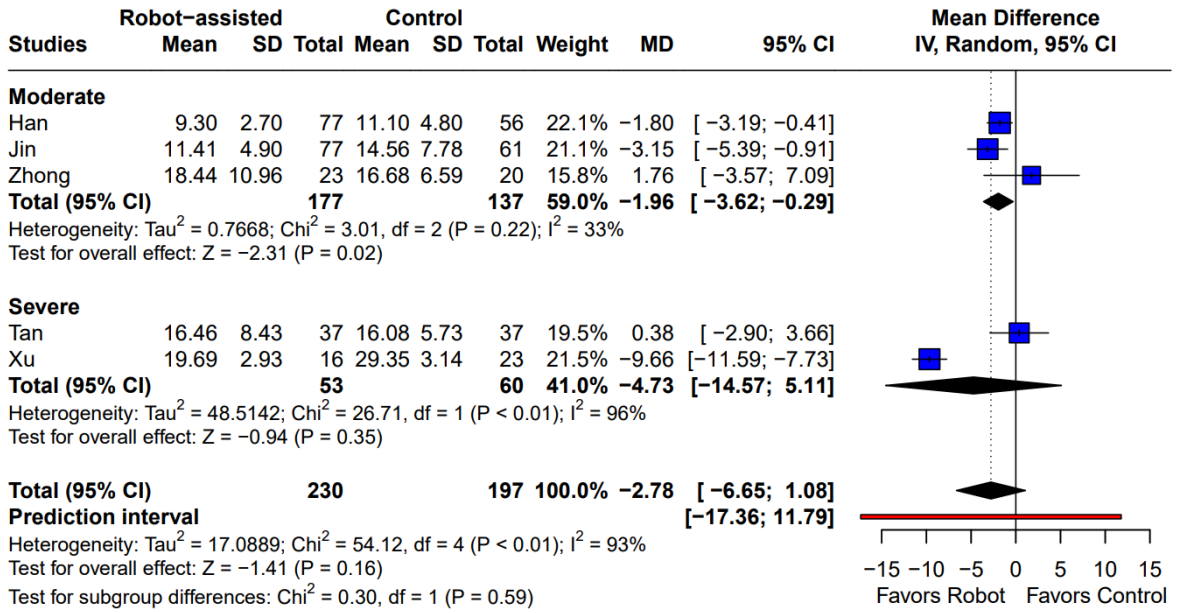
SFigure 101: Leave-one PR hospital stay



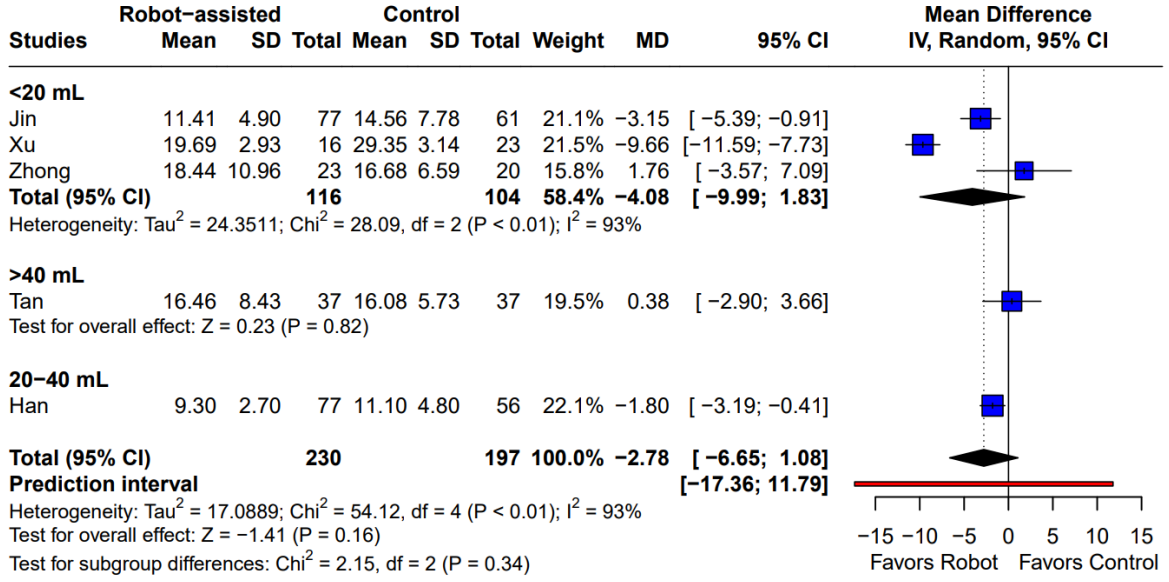
SFigure 102: GOSH PR hospital stay



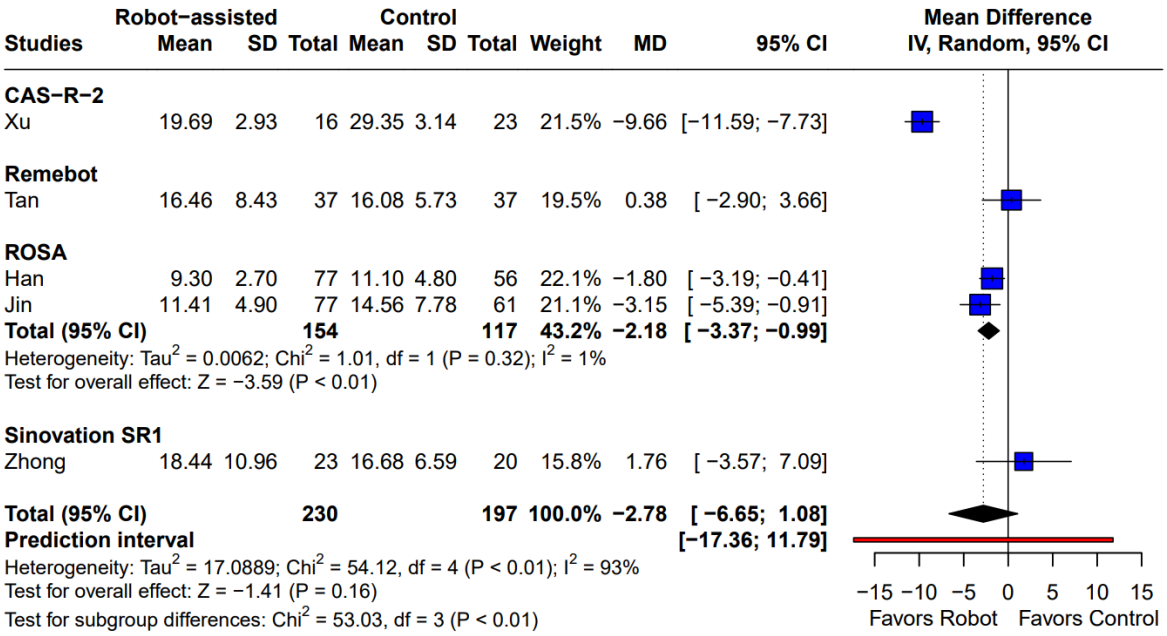
SFigure 103: GCS PR hospital stay



SFigure 104: Hematoma volume PR hospital stay

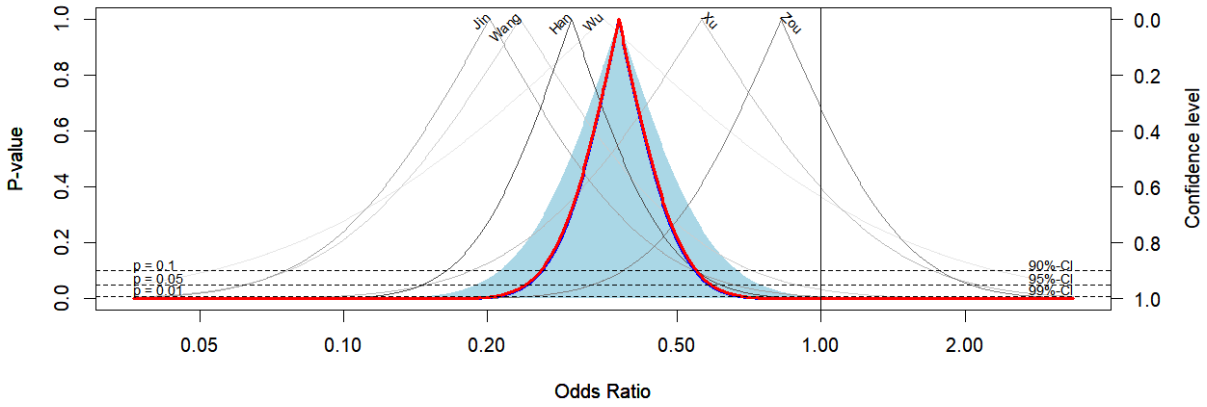


SFigure 105: Robot model PR hospital stay

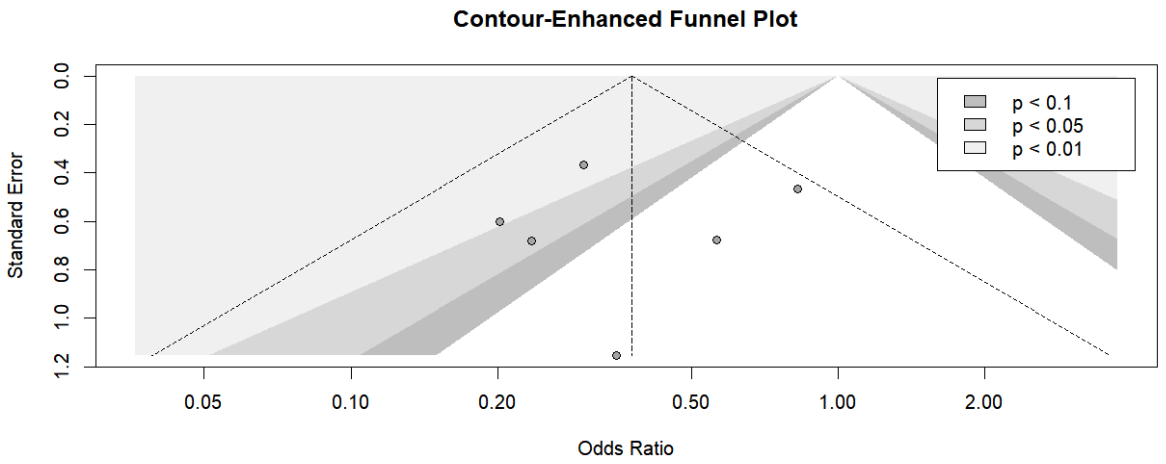


I) Pulmonary Infection

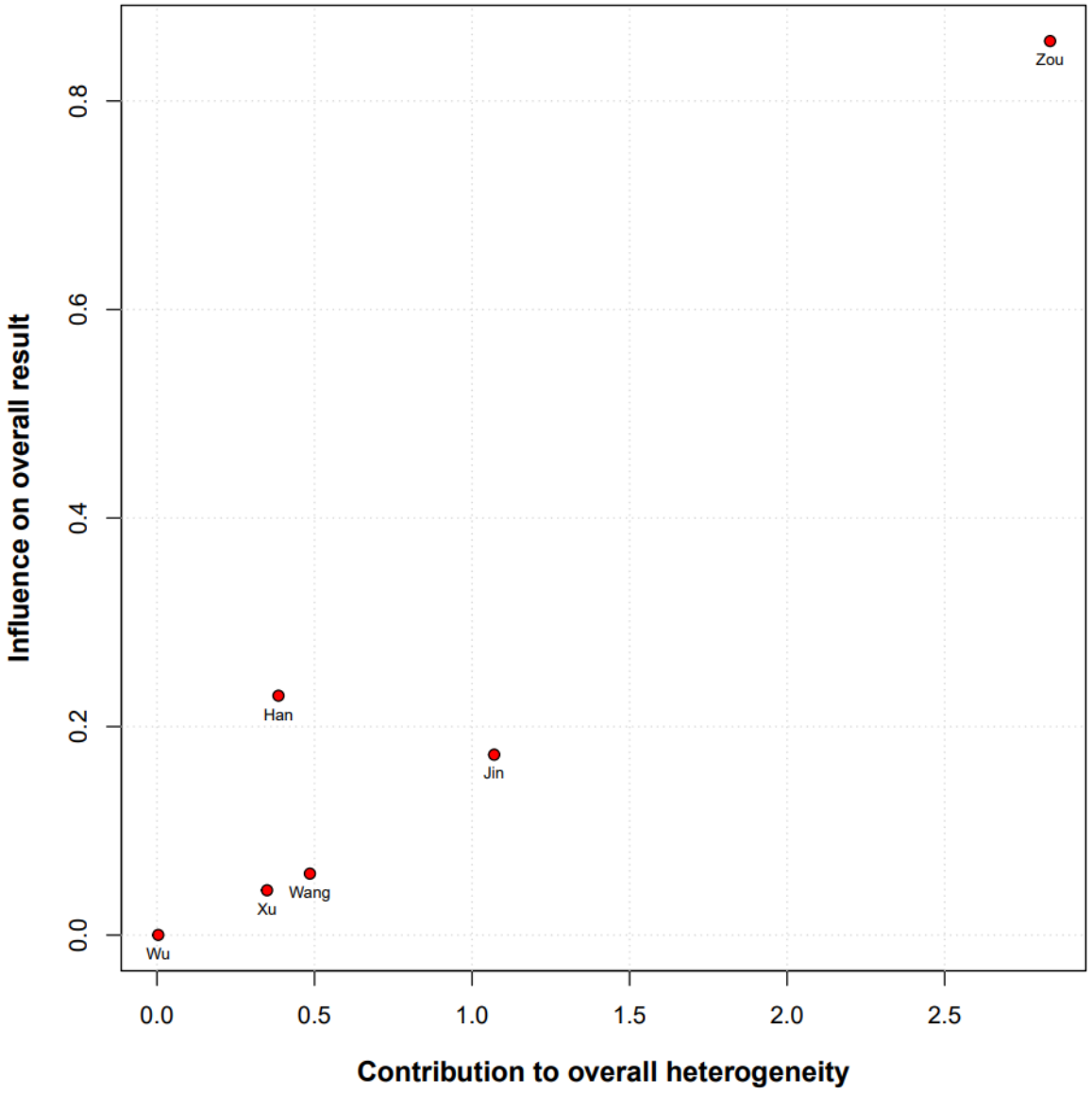
SFigure 106: Pulmonary infection drapery plot



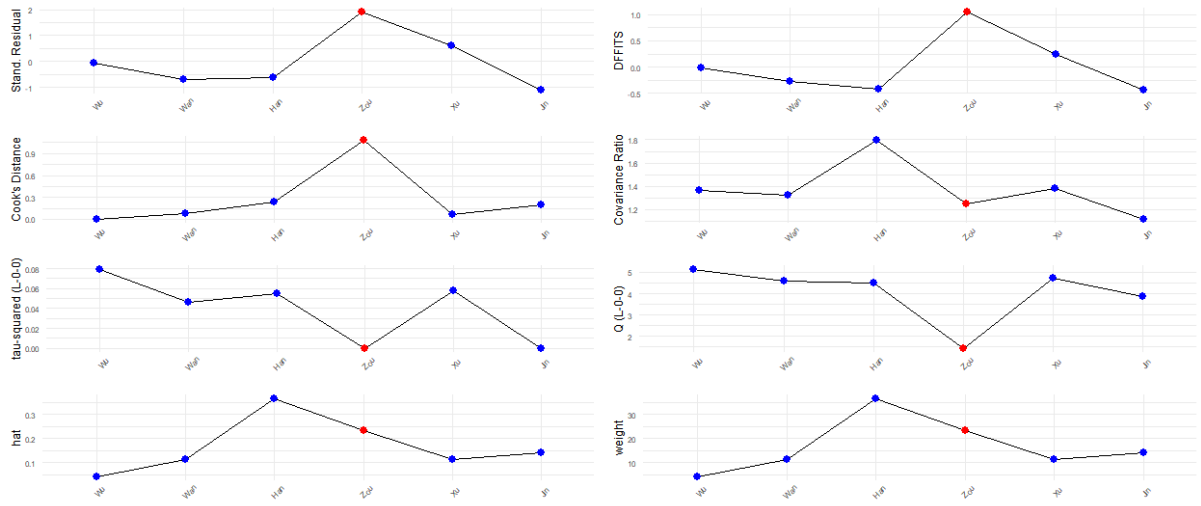
SFigure 107: Pulmonary infection funnel plot



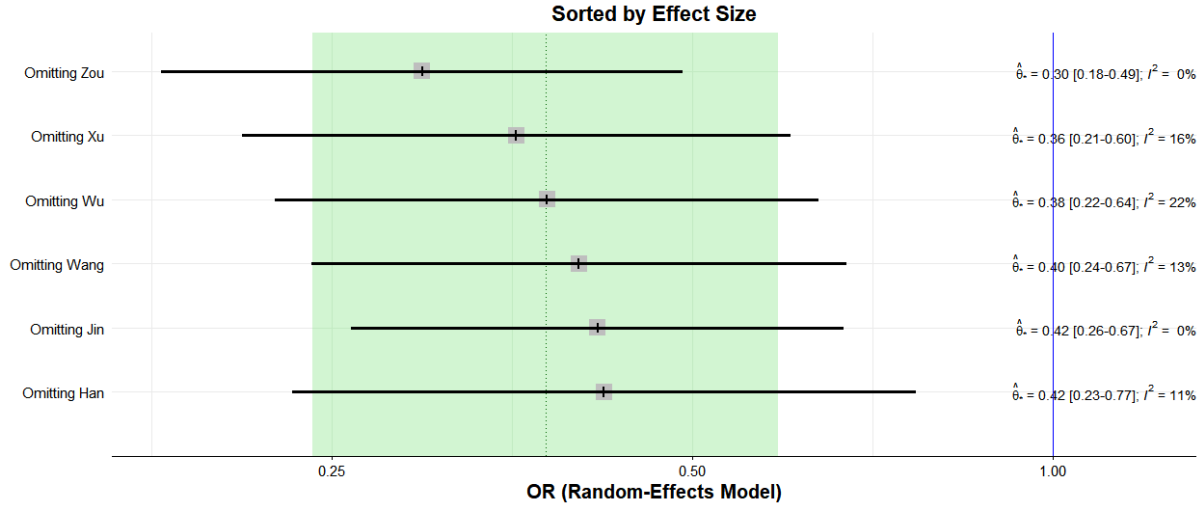
SFigure 108: Pulmonary infection Baujat plot



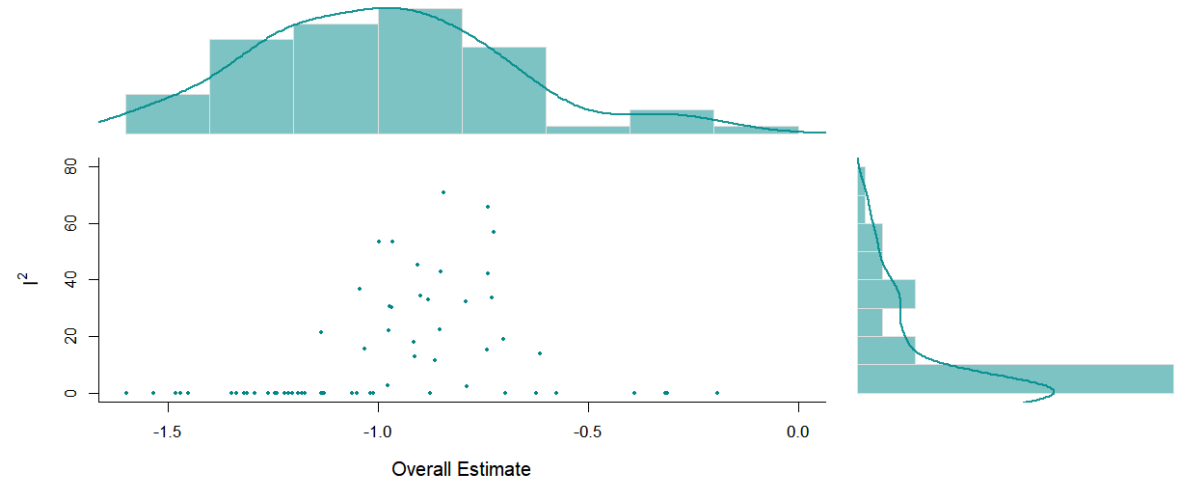
SFigure 109: Pulmonary infection ID



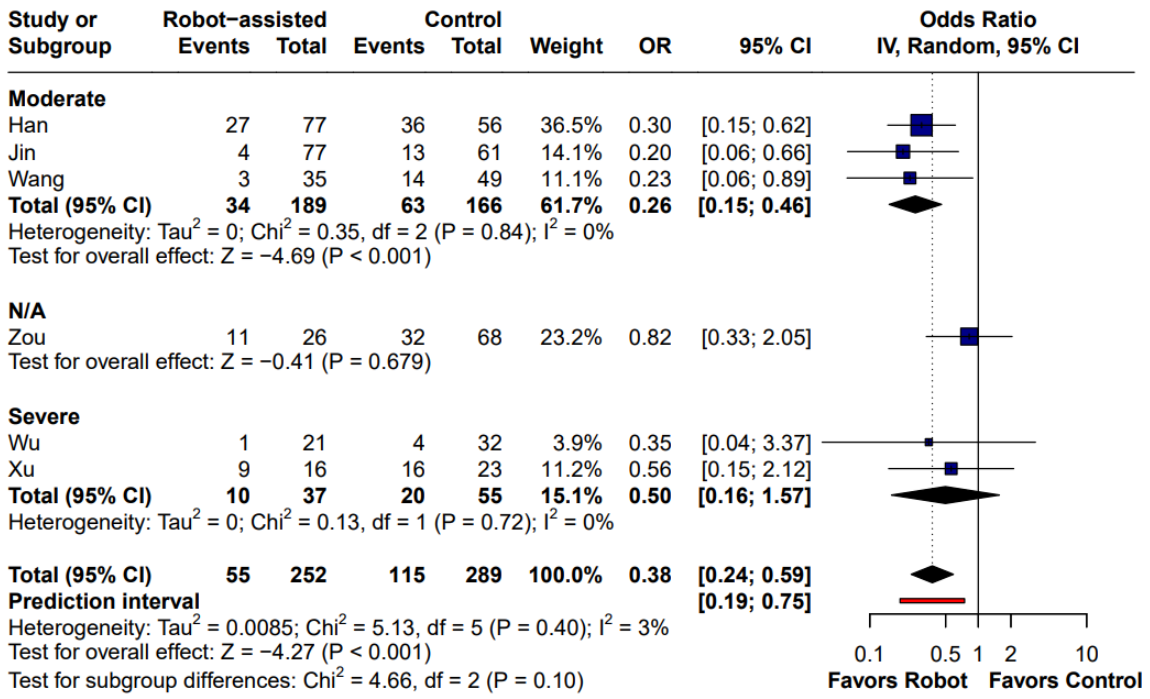
SFigure 110: Leave-one pulmonary infection



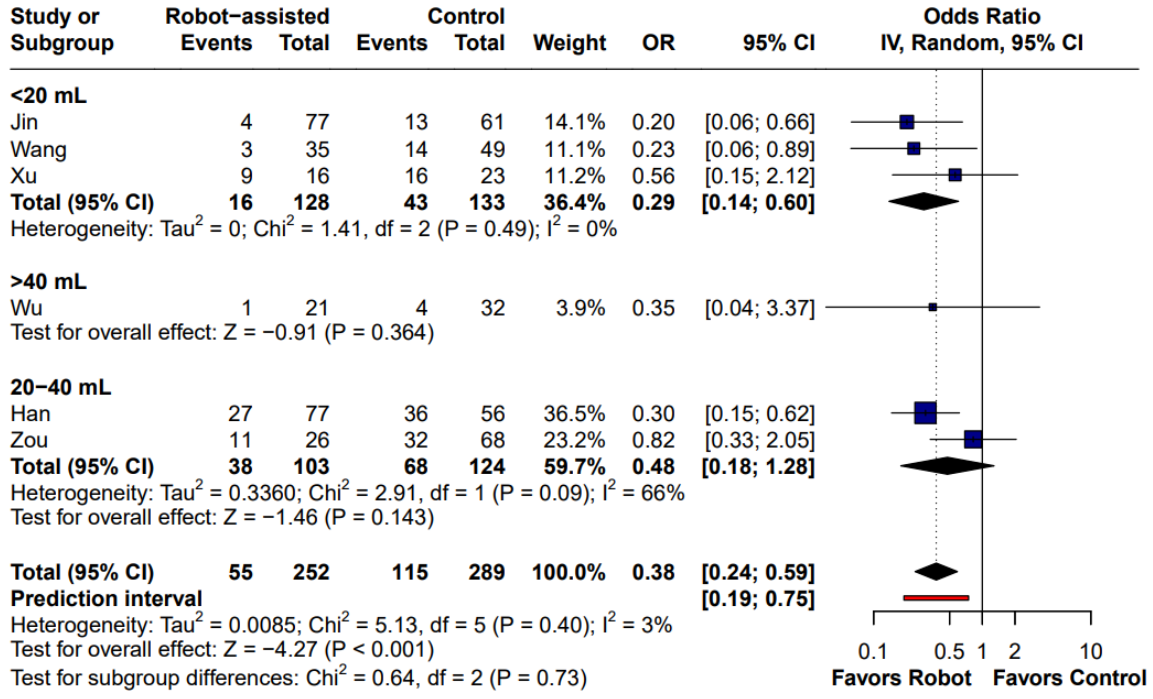
SFigure 111: Pulmonary infection ID



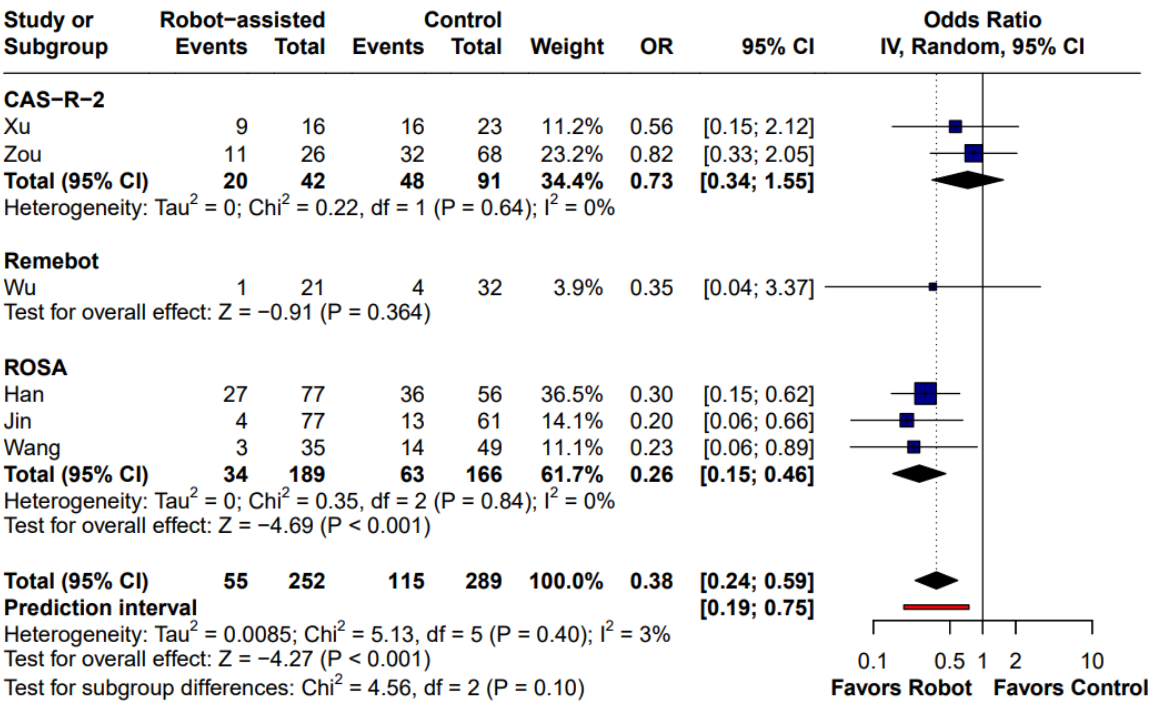
SFigure 112: GCS pulmonary infection



SFigure 113: Hematoma volume pulmonary infection

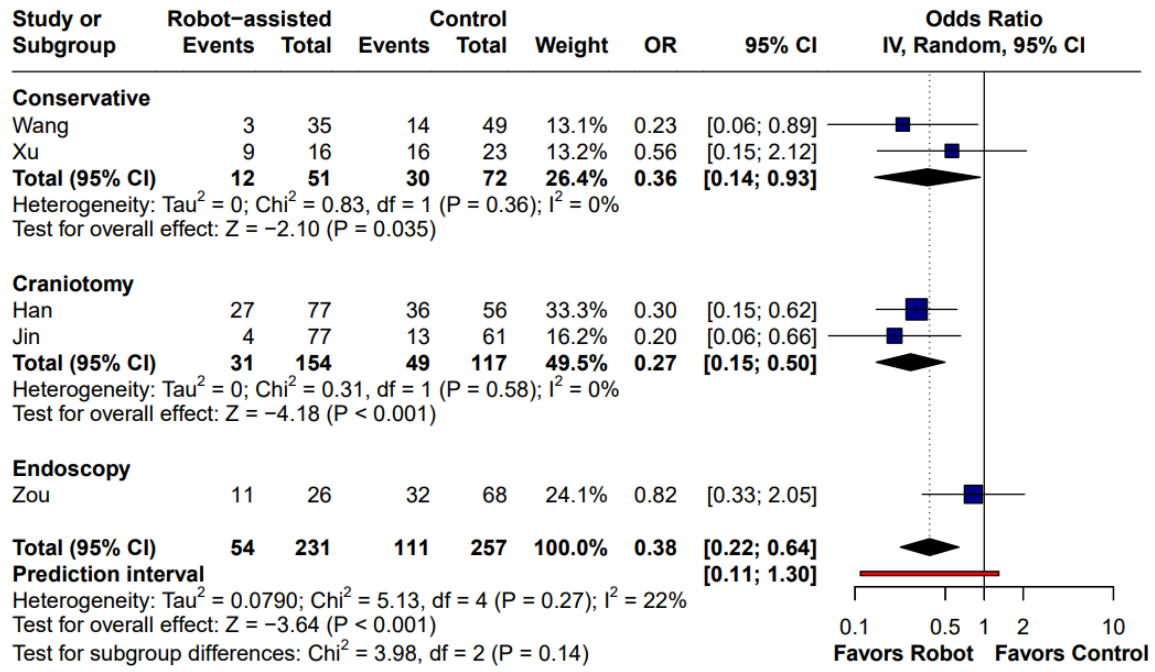


SFigure 114: Robot model pulmonary infection

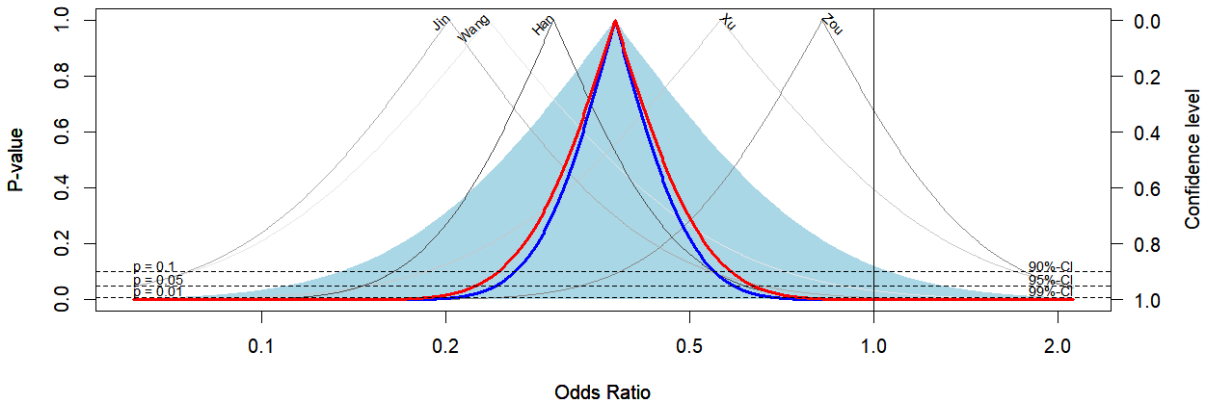


m) PR pulmonary infection sensitivity analysis

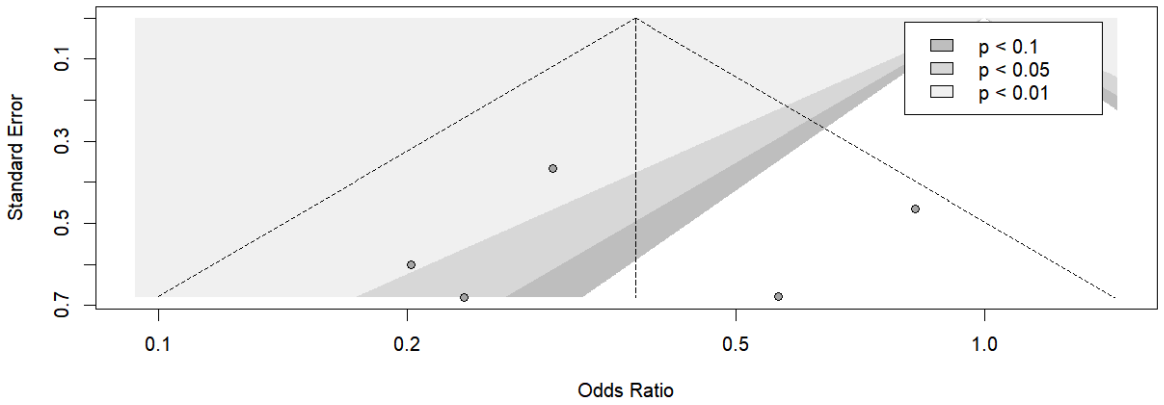
SFigure 115: Control PR pulmonary infection



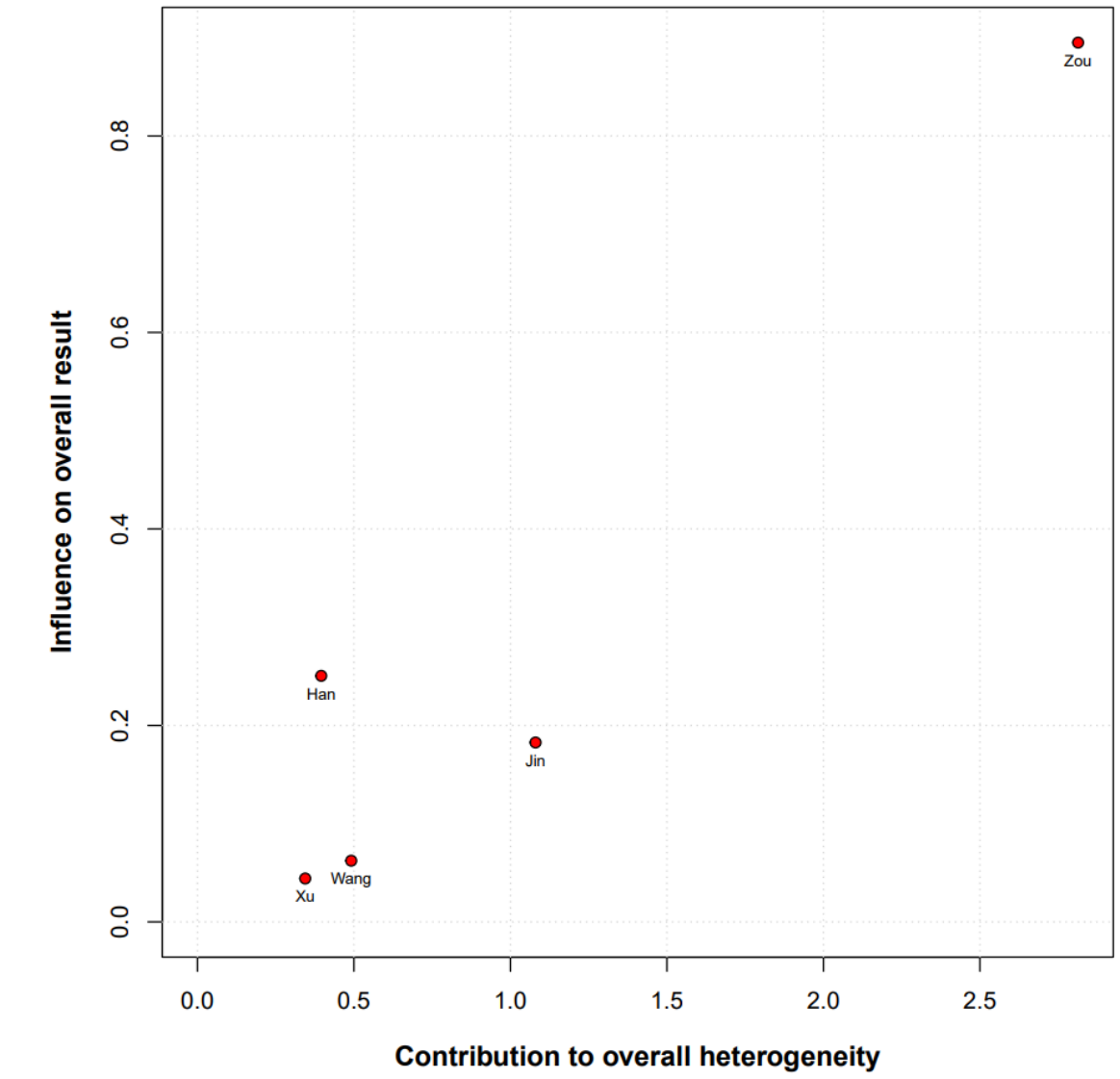
SFigure 116: PR pulmonary infection drapery plot



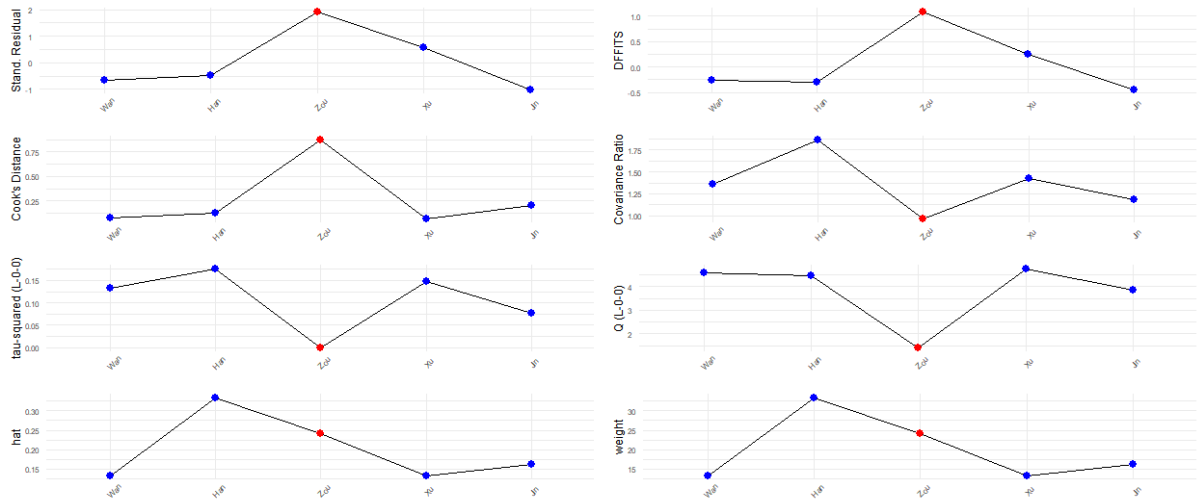
SFigure 117: PR pulmonary infection funnel plot



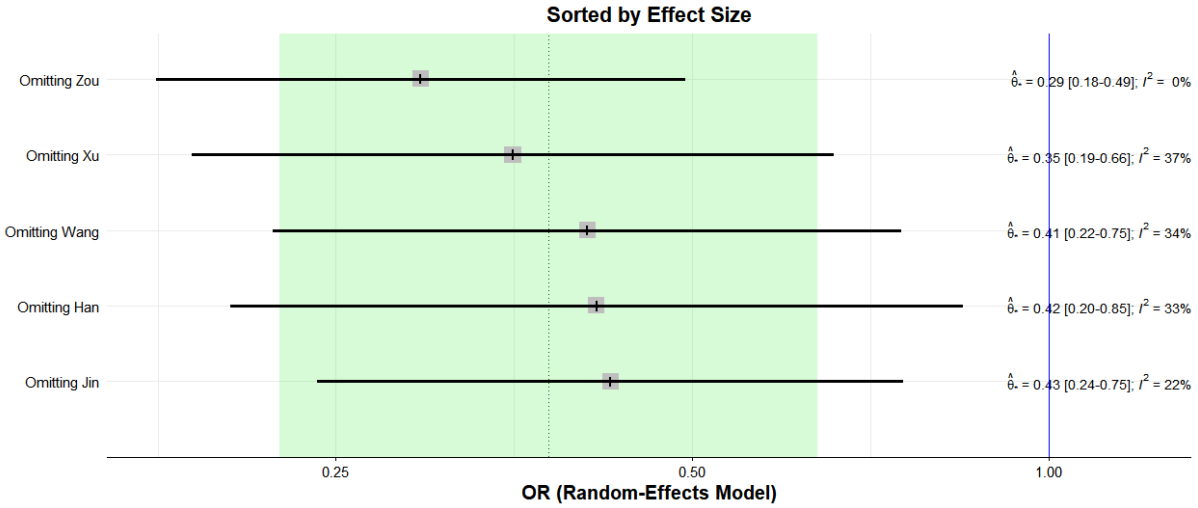
SFigure 118: PR pulmonary infection Baujat plot



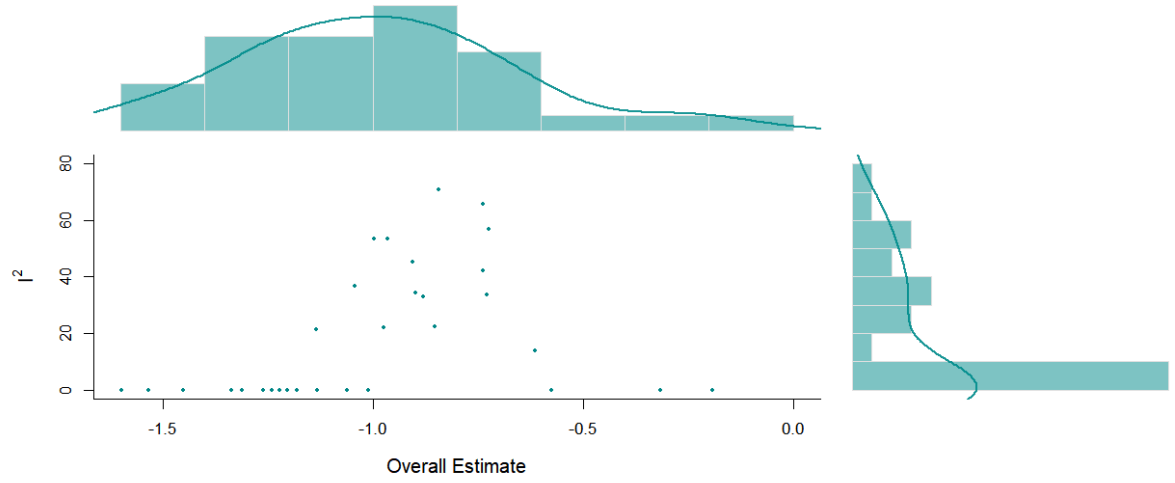
SFigure 119: PR pulmonary infection ID



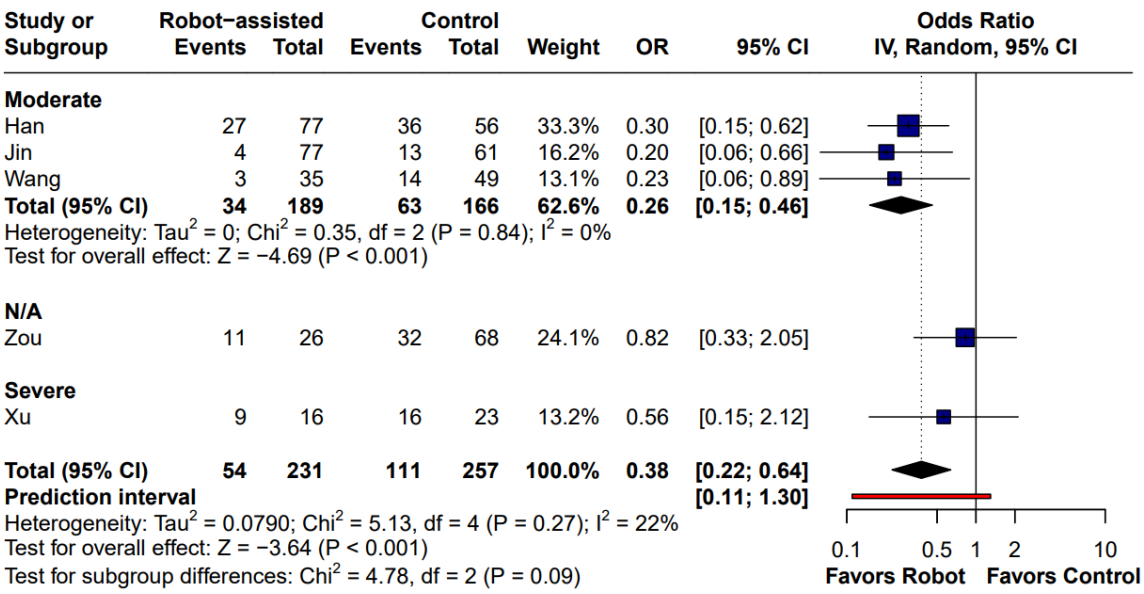
SFigure 120: Leave-one out PR pulmonary infection



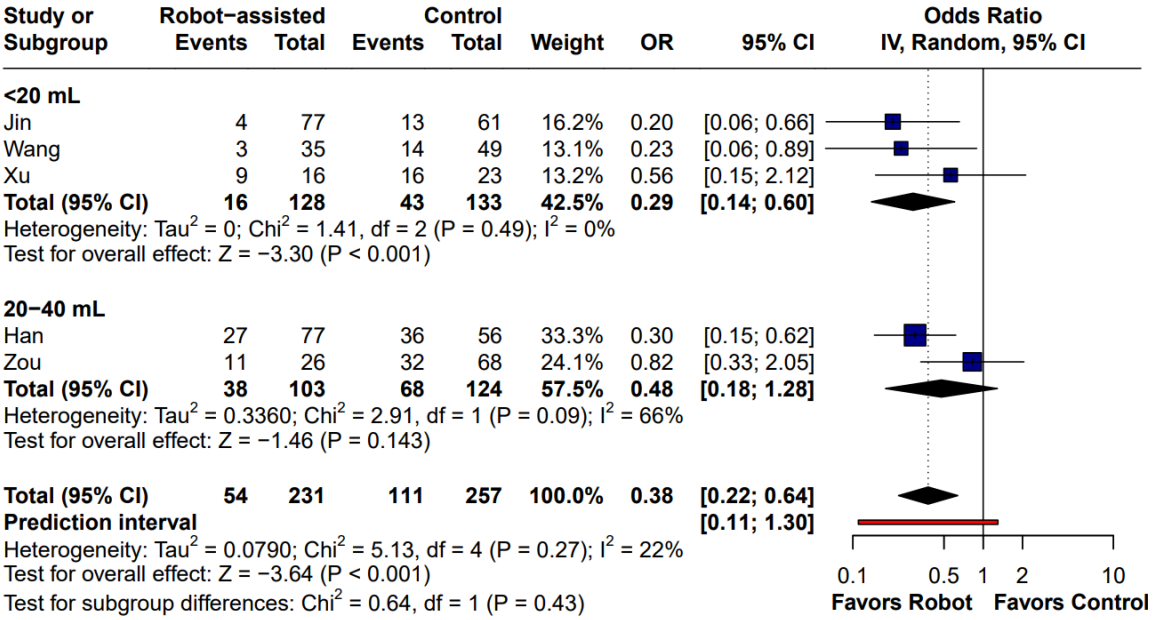
SFigure 121: GOSH PR pulmonary infection



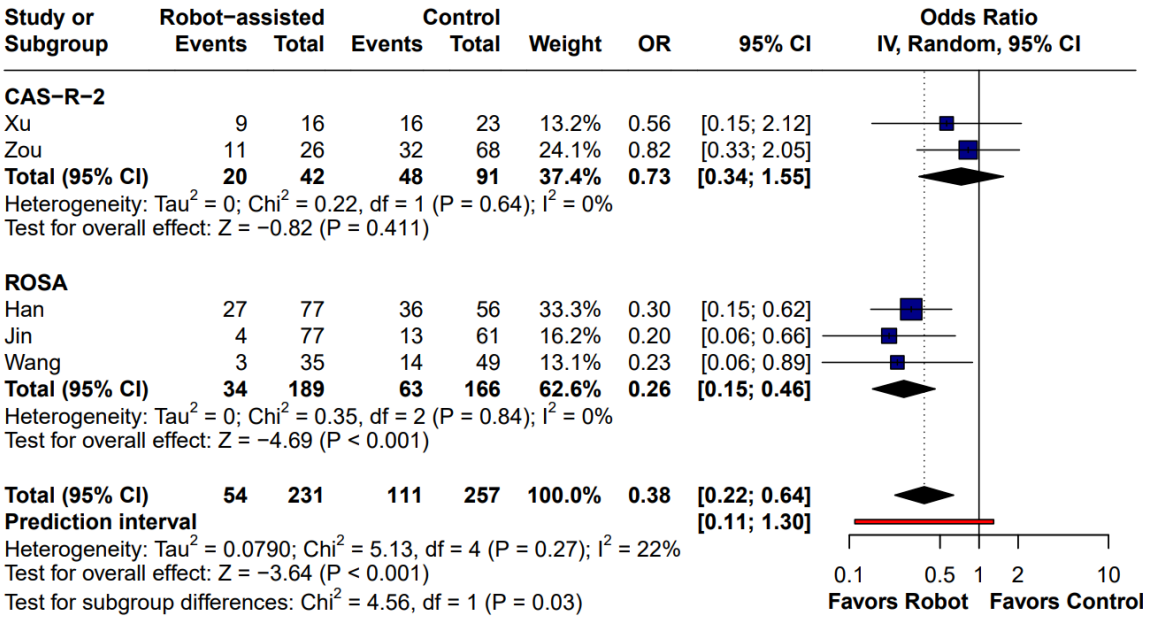
SFigure 122: GCS PR pulmonary infection



SFigure 123: Hematoma volume PR pulmonary infection

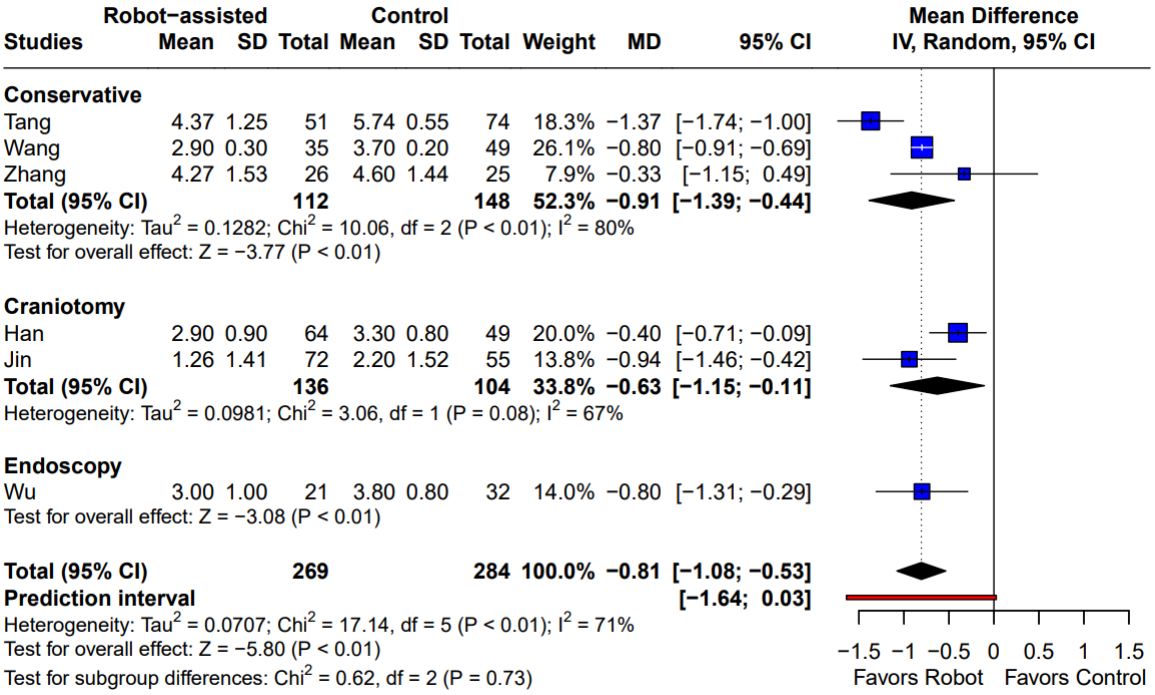


SFigure 124: Robot model PR pulmonary infection

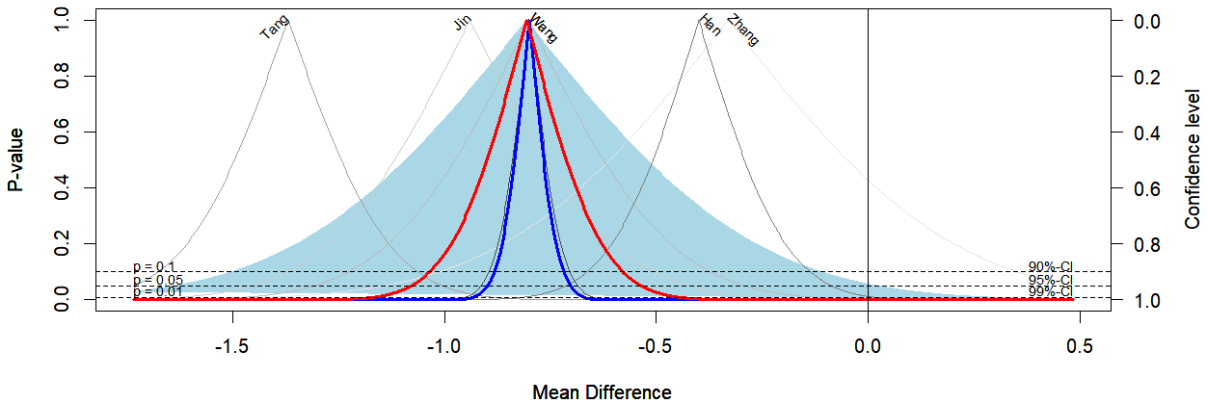


n) Mean MRS

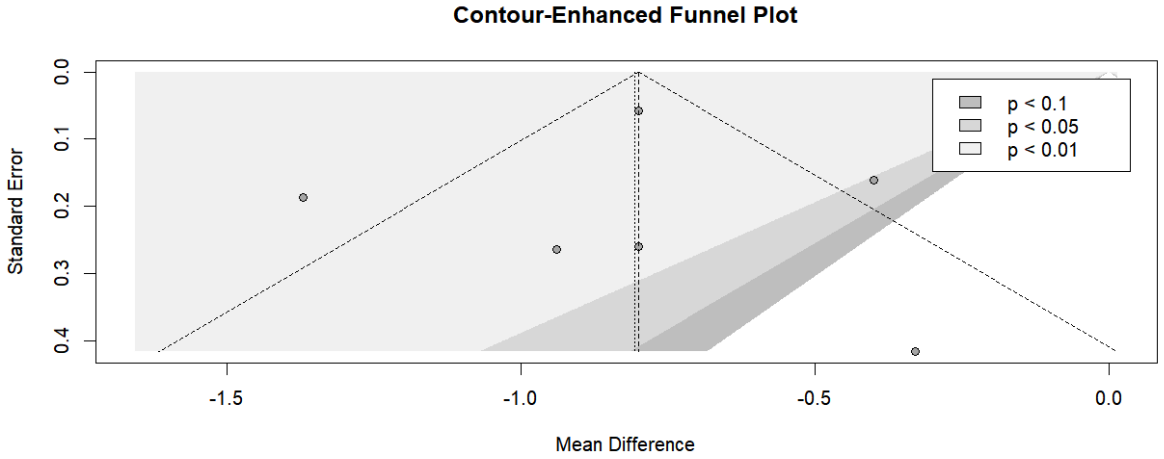
SFigure 125: Control mean MRS



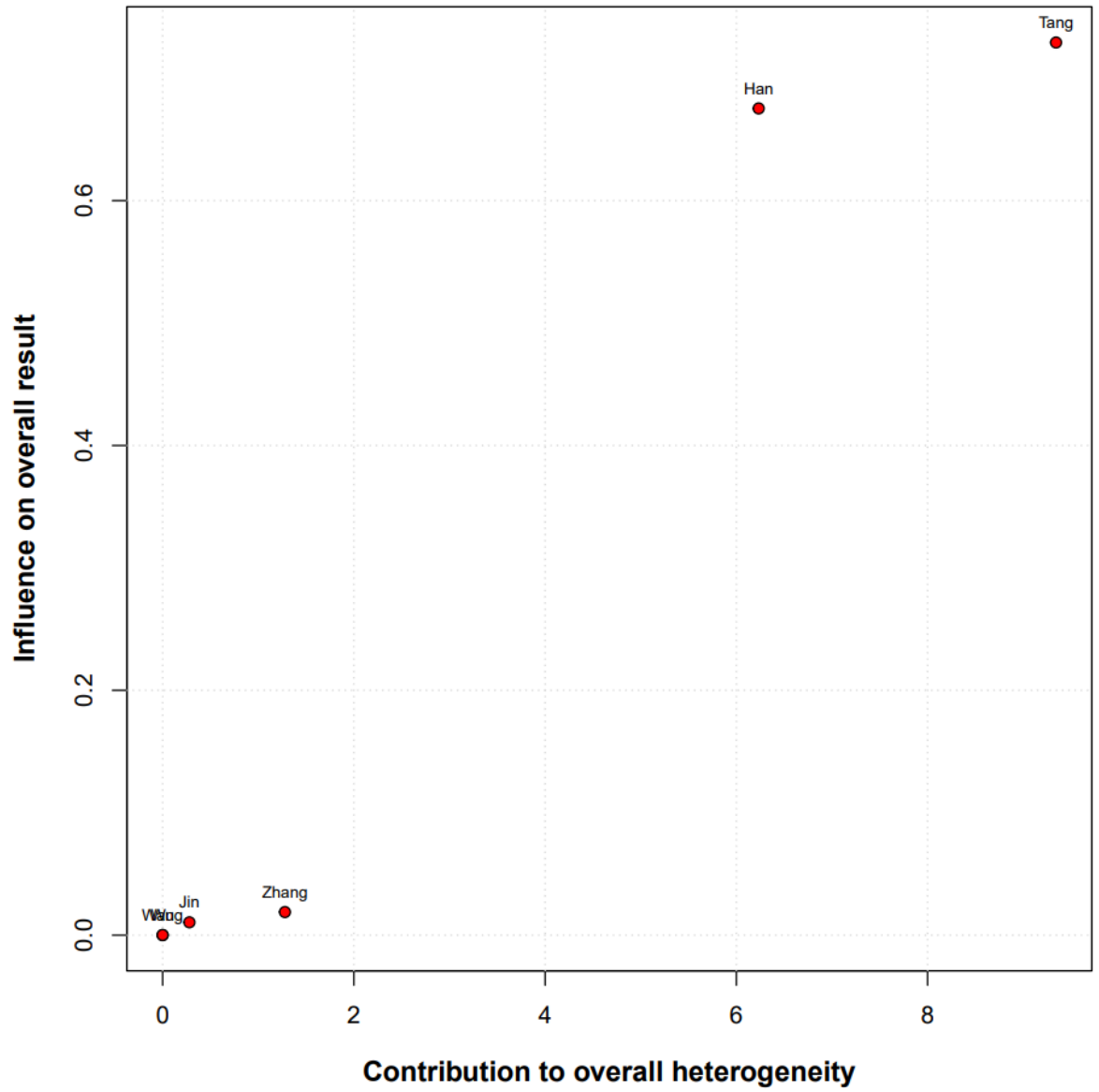
SFigure 126: Mean MRS drapery plot



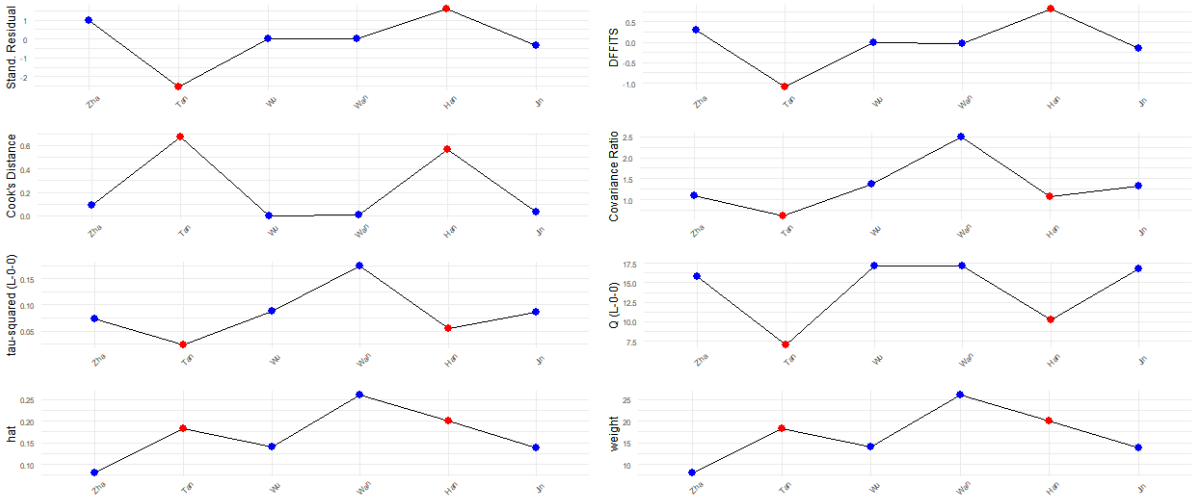
SFigure 127: Mean MRS funnel plot



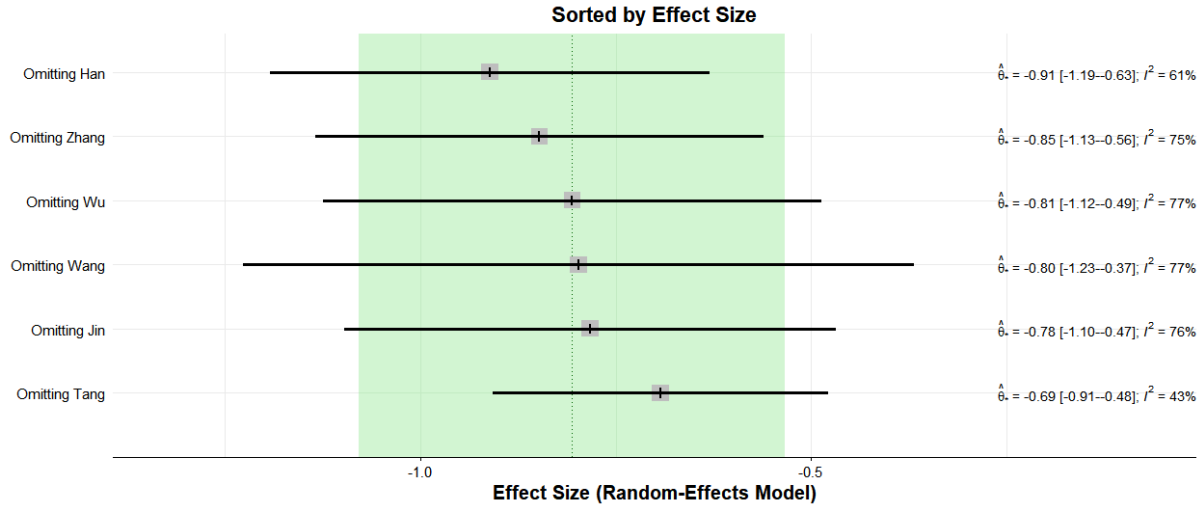
SFigure 128: Mean MRS Baujat plot



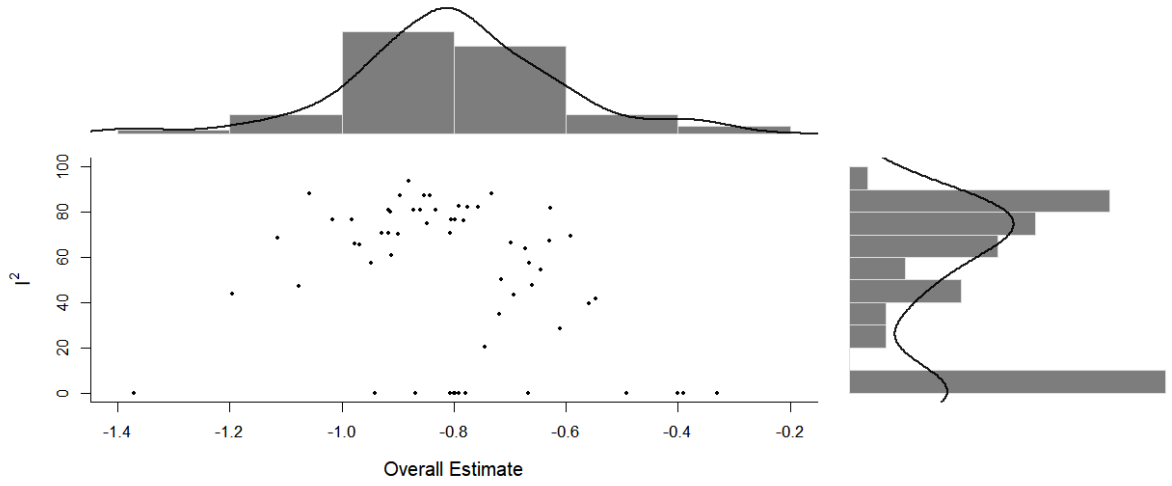
SFigure 129: Mean MRS ID



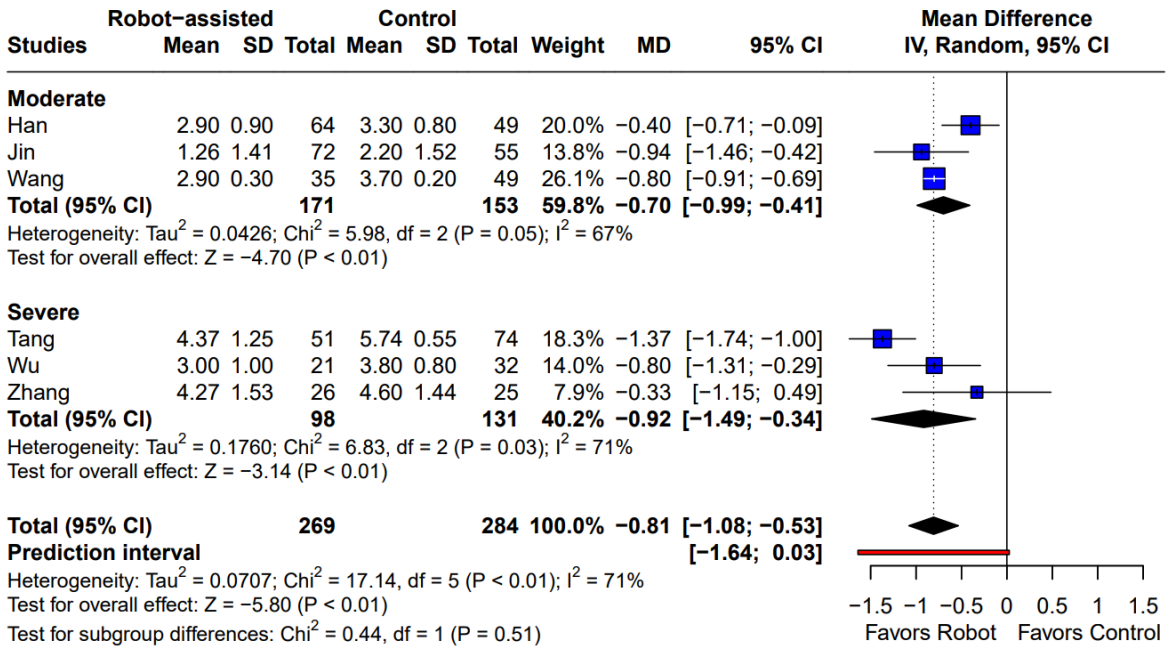
SFigure 130: Leave-one out mean MRS



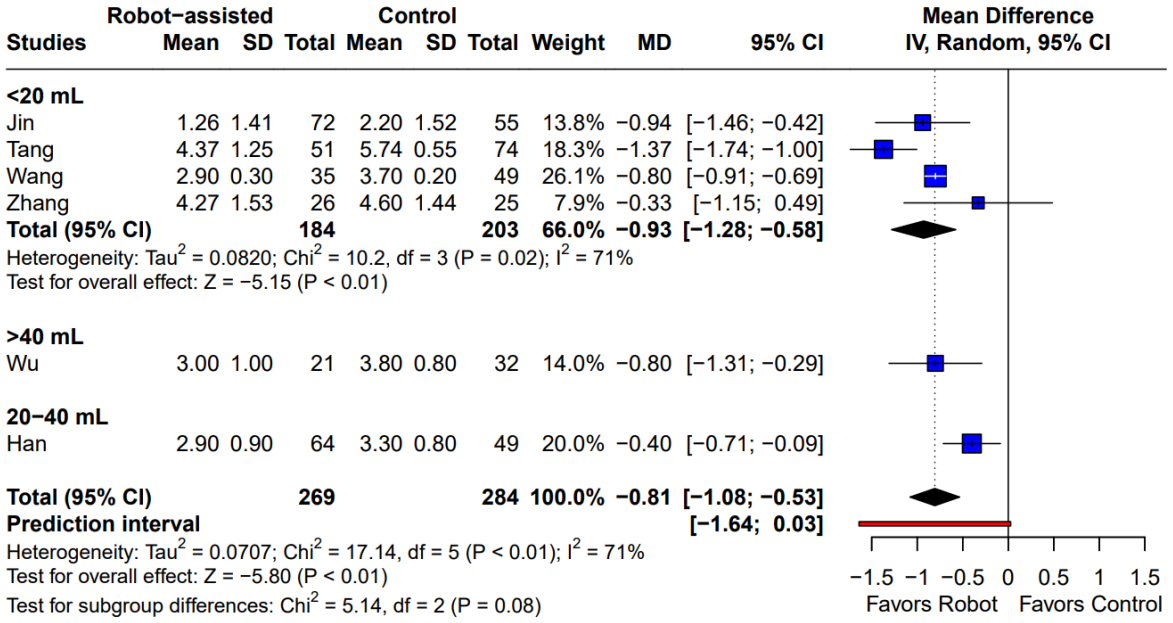
SFigure 131: GOSH mean MRS



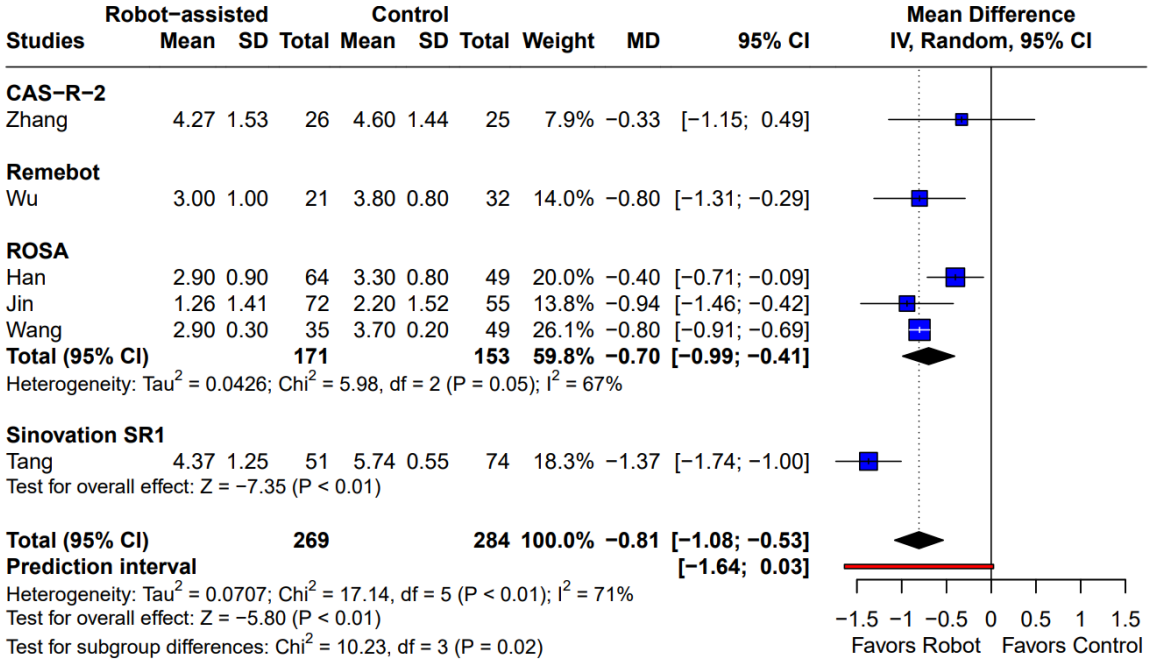
SFigure 132: GCS mean MRS



SFigure 133: Hematoma volume mean MRS

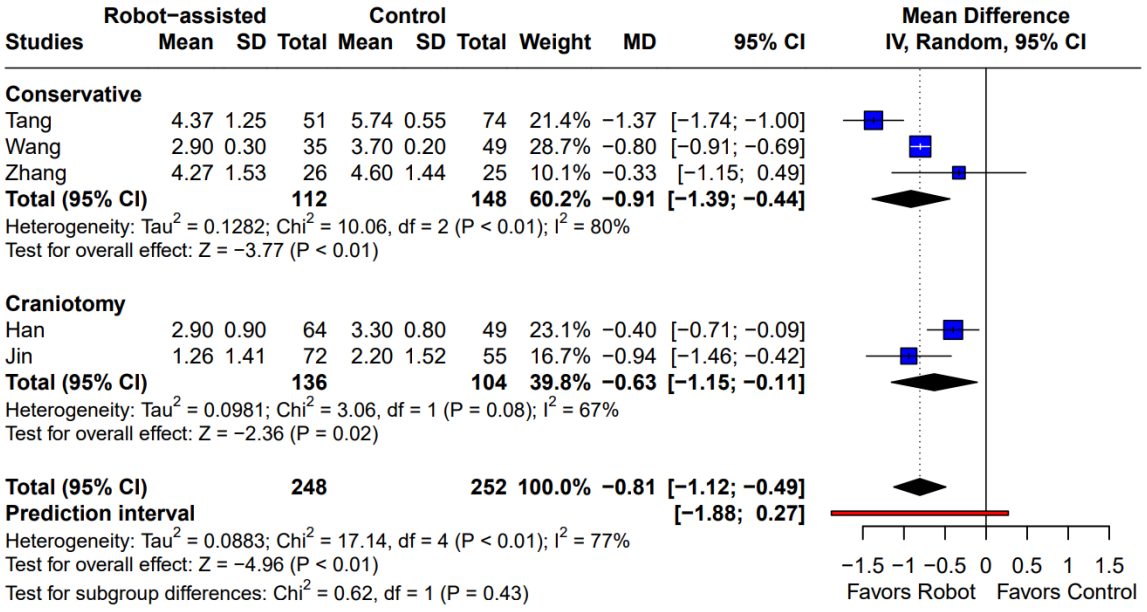


SFigure 134: Robot model mean MRS

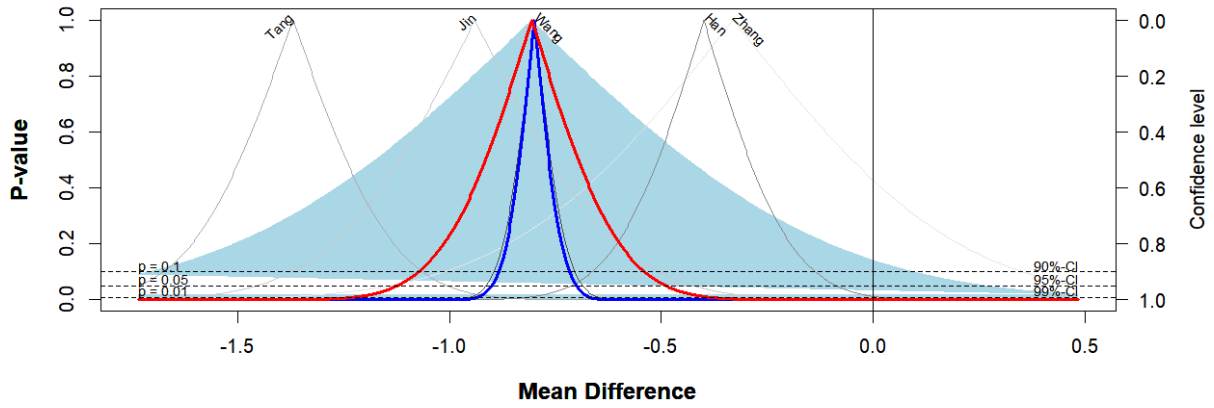


o) PR mean MRS

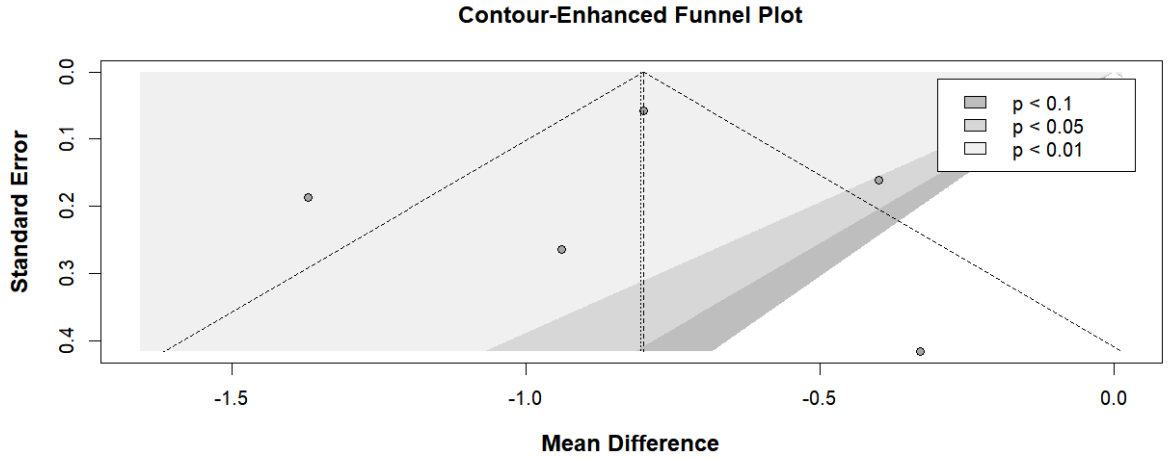
SFigure 135: Control PR mean MRS



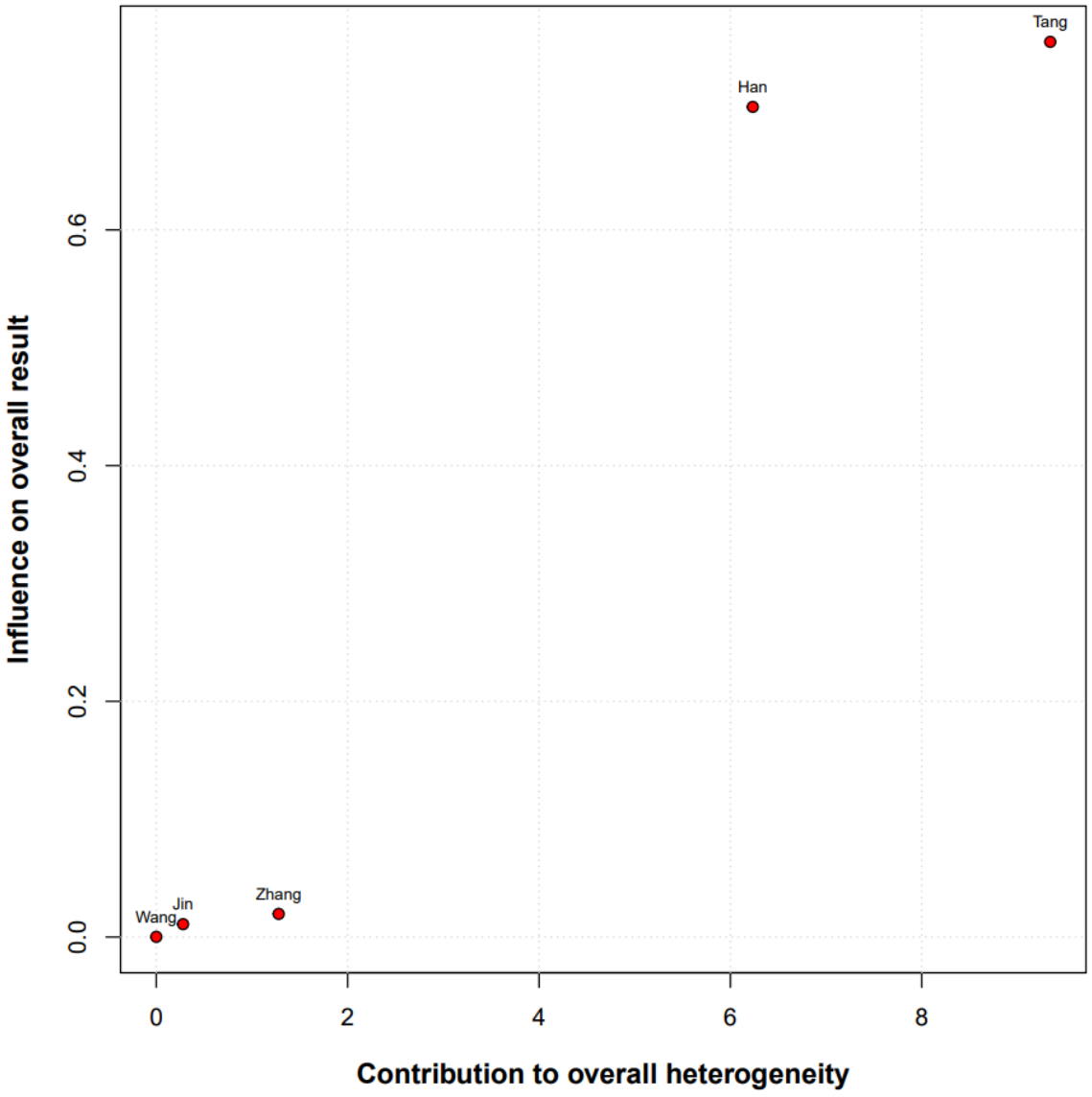
SFigure 136: PR mean MRS drapery plot



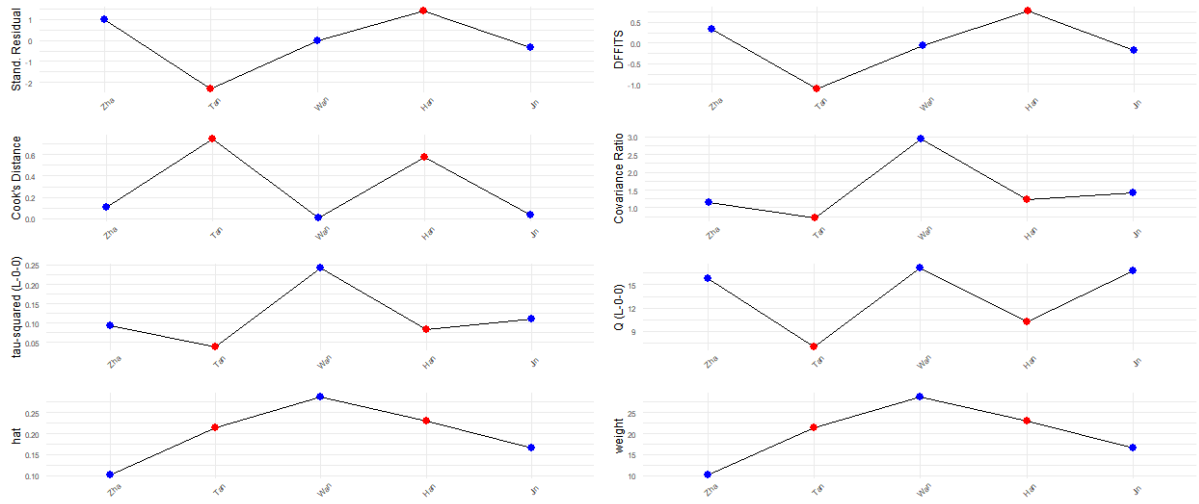
SFigure 137: PR mean MRS funnel plot



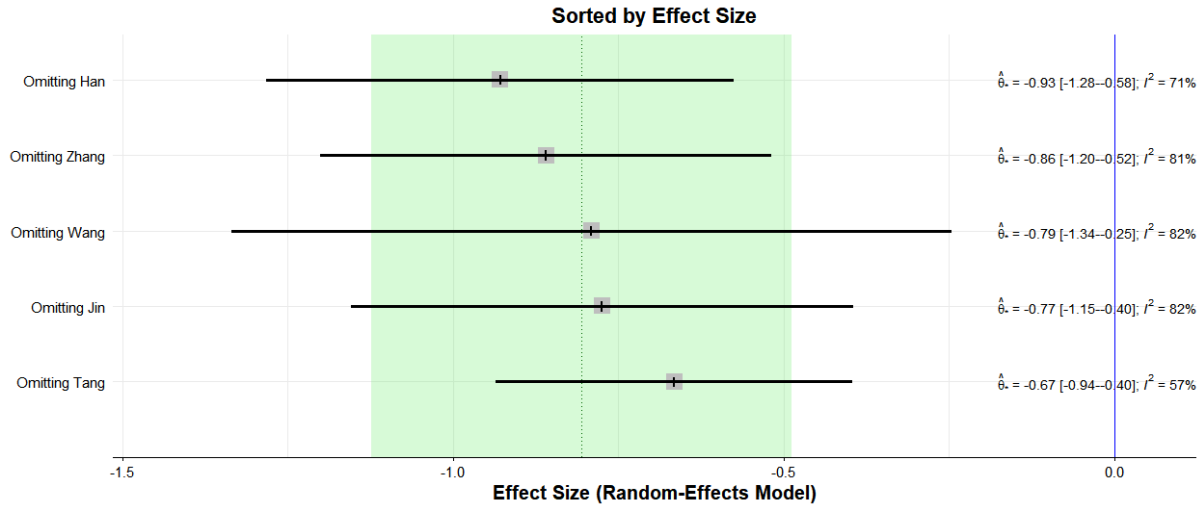
SFigure 138: PR mean MRS Baujat plot



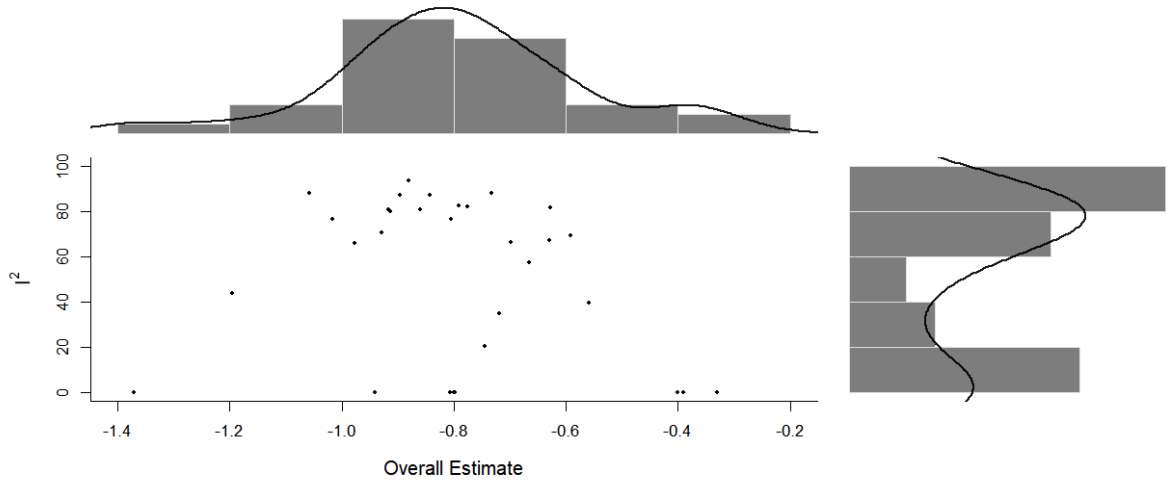
SFigure 139: PR mean MRS ID



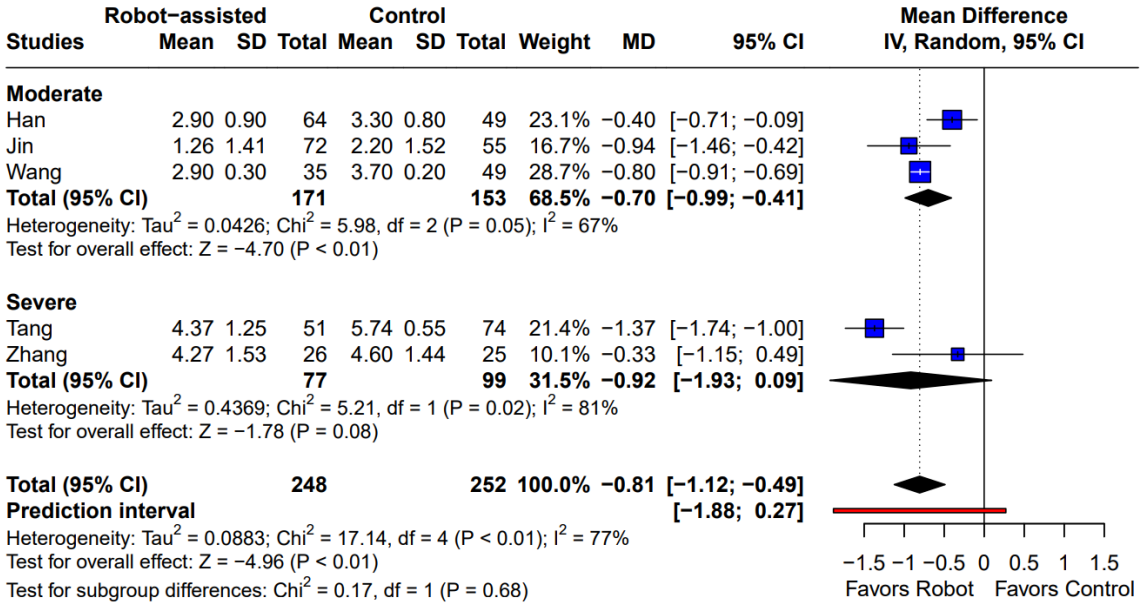
SFigure 140: Leave-one out PR mean MRS



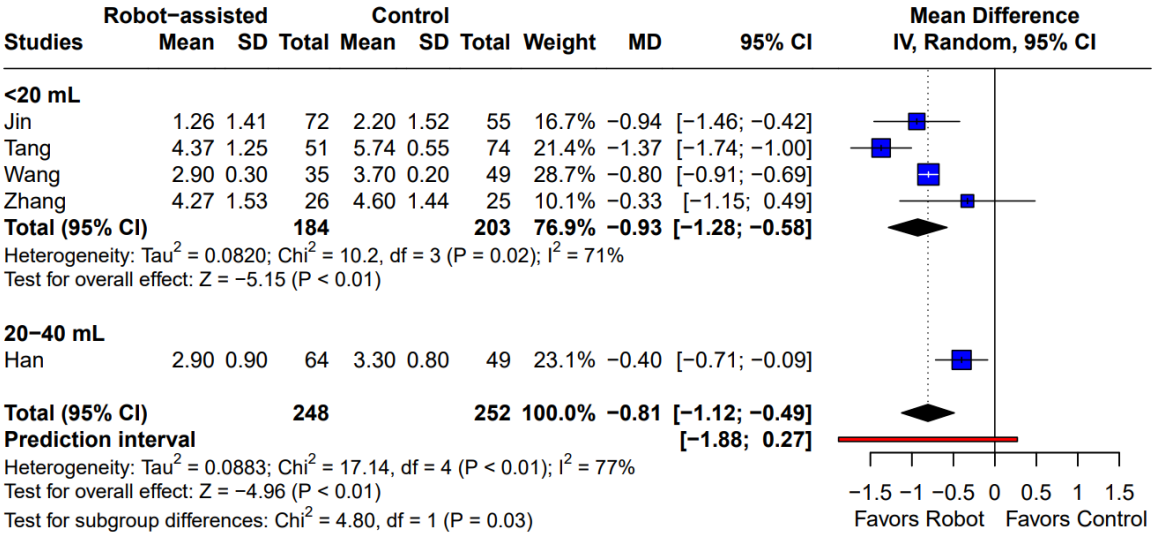
SFigure 141: GOSH PR mean MRS



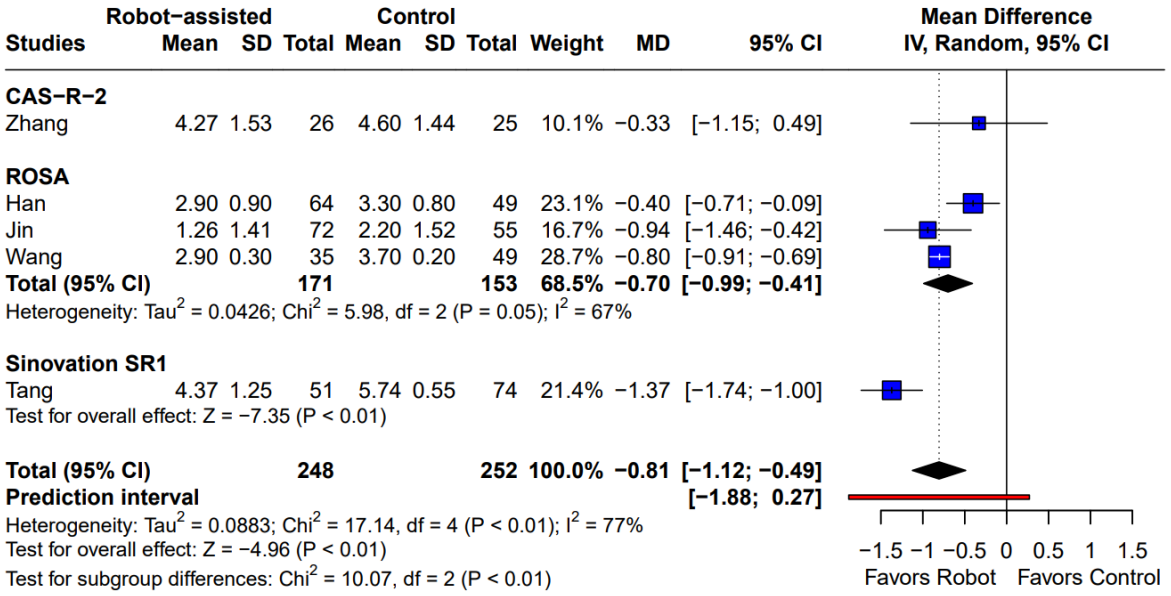
SFigure 142: GCS PR mean MRS



SFigure 143: Hematoma volume PR mean MRS

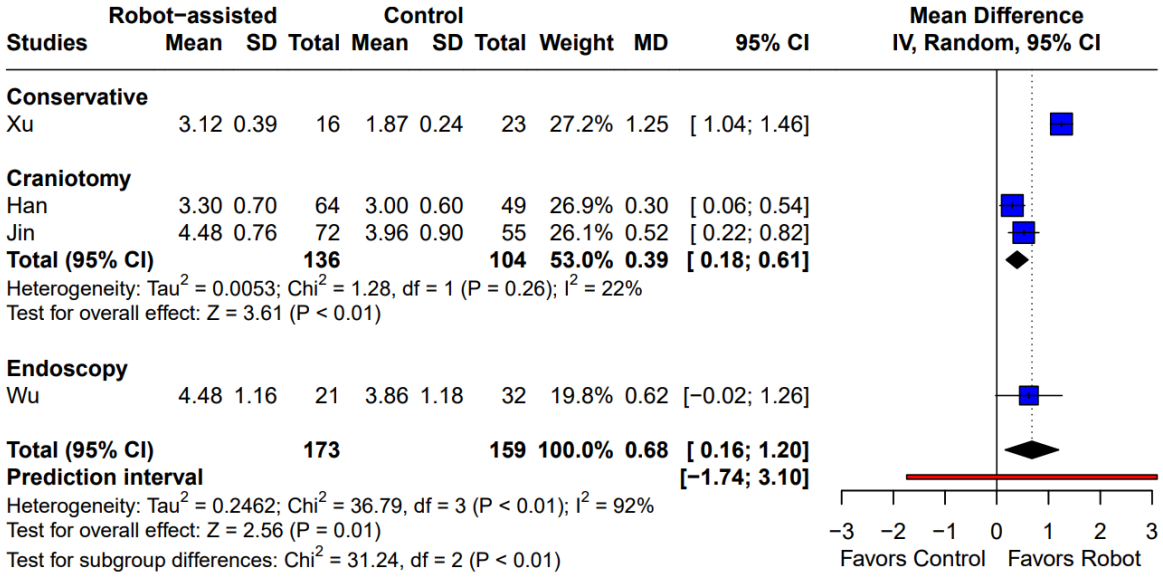


SFigure 144: Robot model PR mean MRS

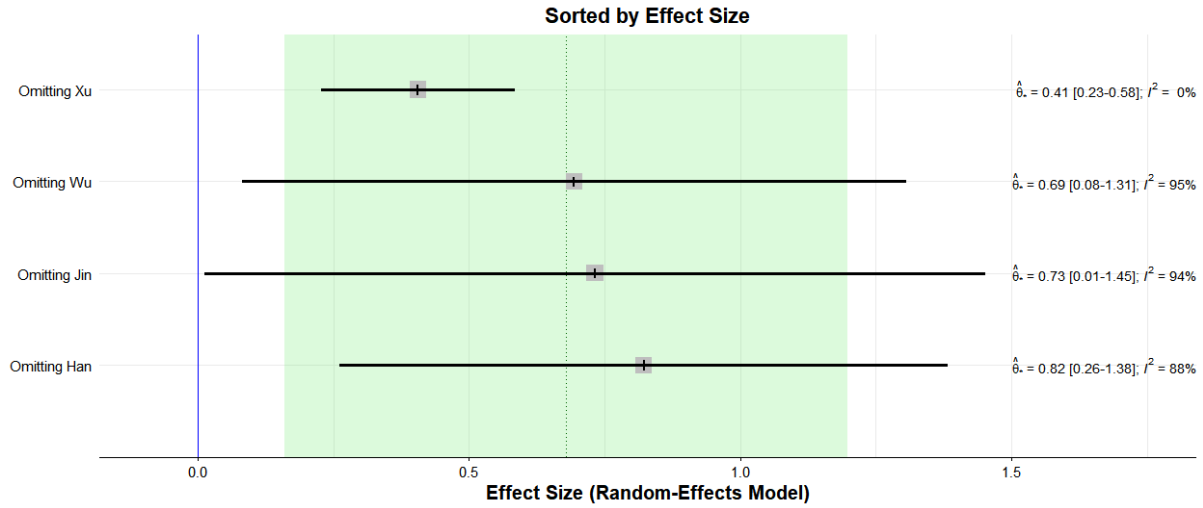


p) Secondary outcomes

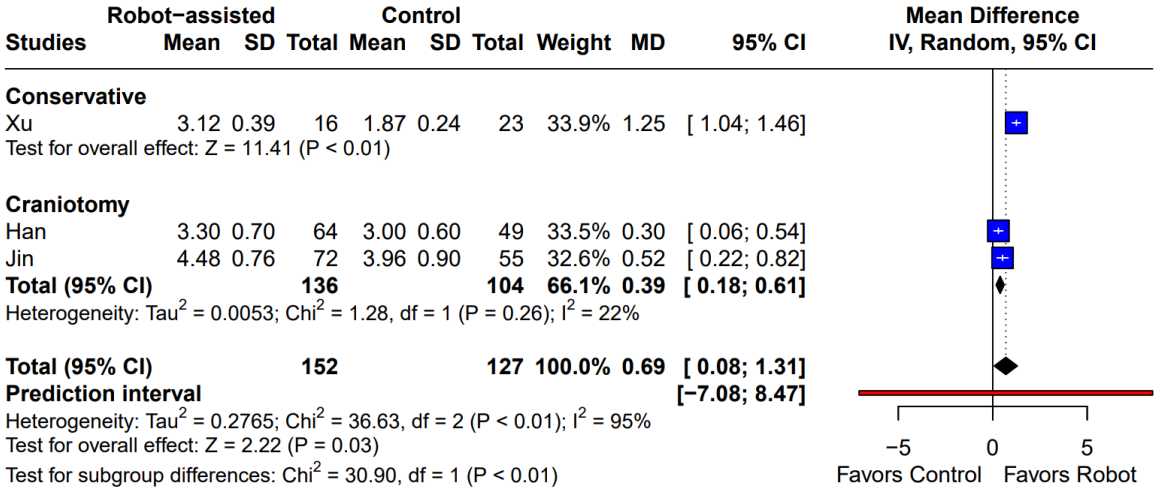
SFigure 145: GOS



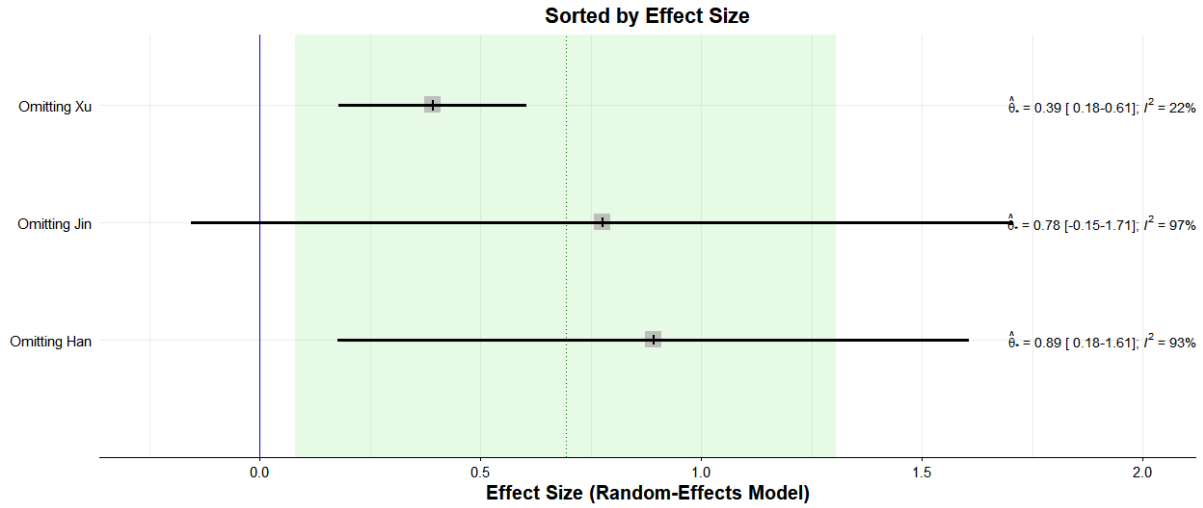
SFigure 146: Leave-one out GOS



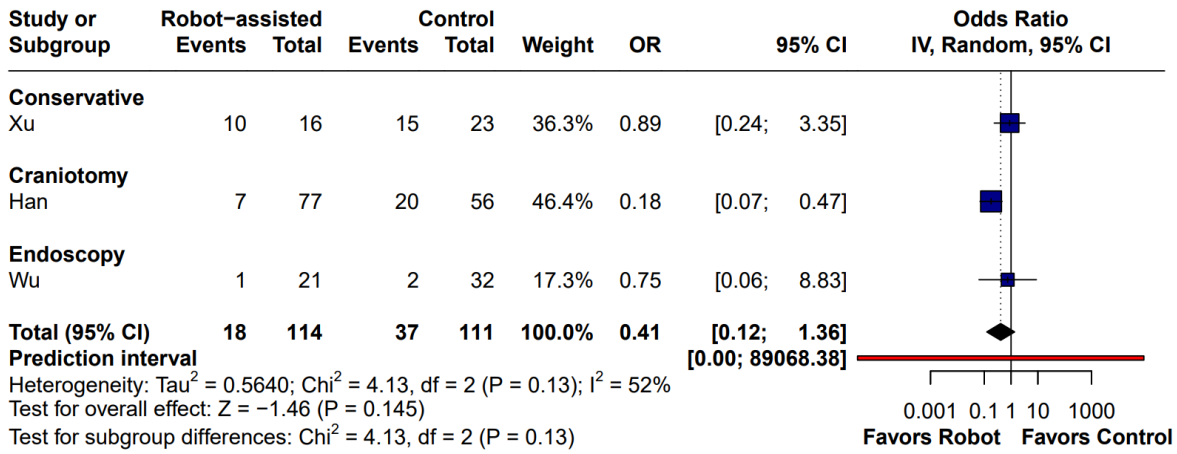
SFigure 147: GOS PR



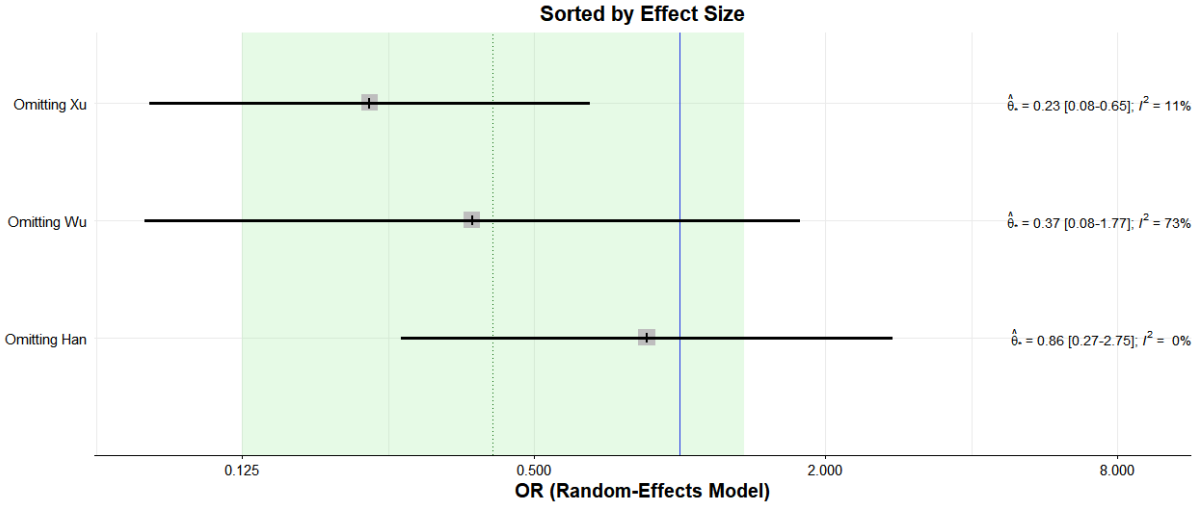
SFigure 148: Leave-one out GOS PR



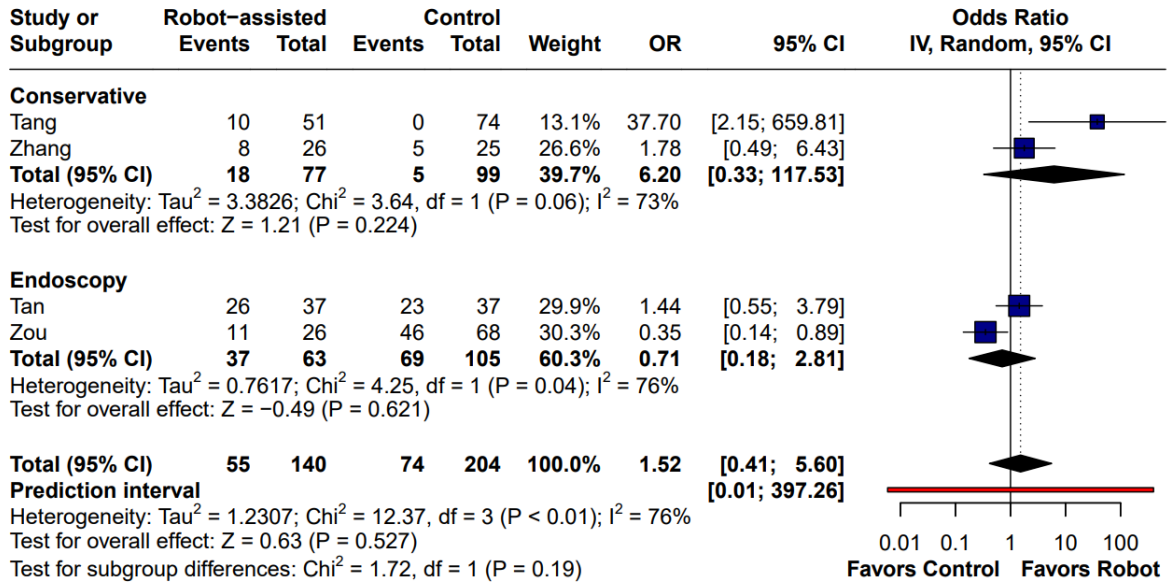
SFigure 149: Digestive track hemorrhage



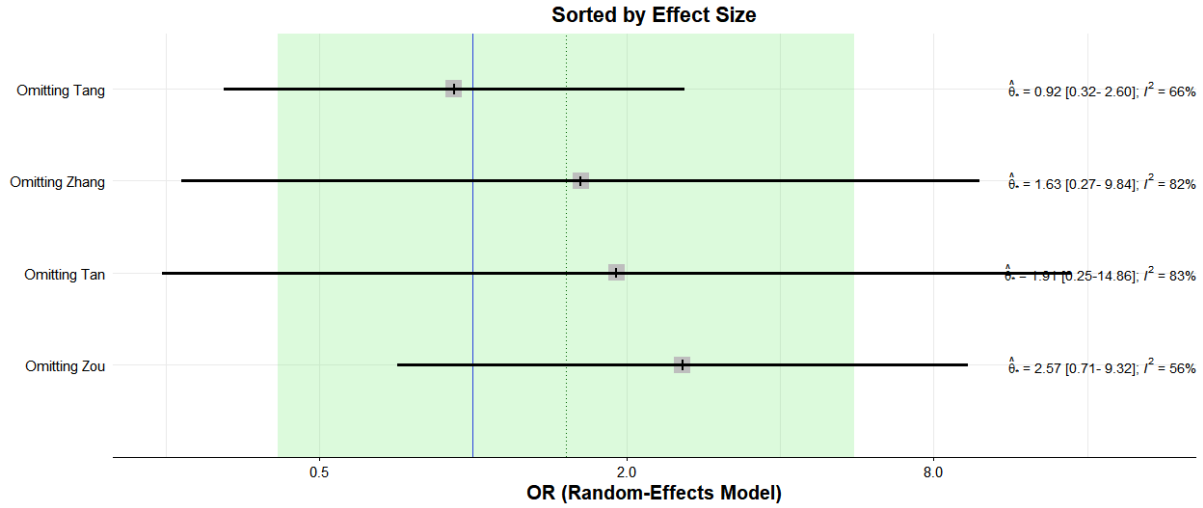
SFigure 150: Leave-one out



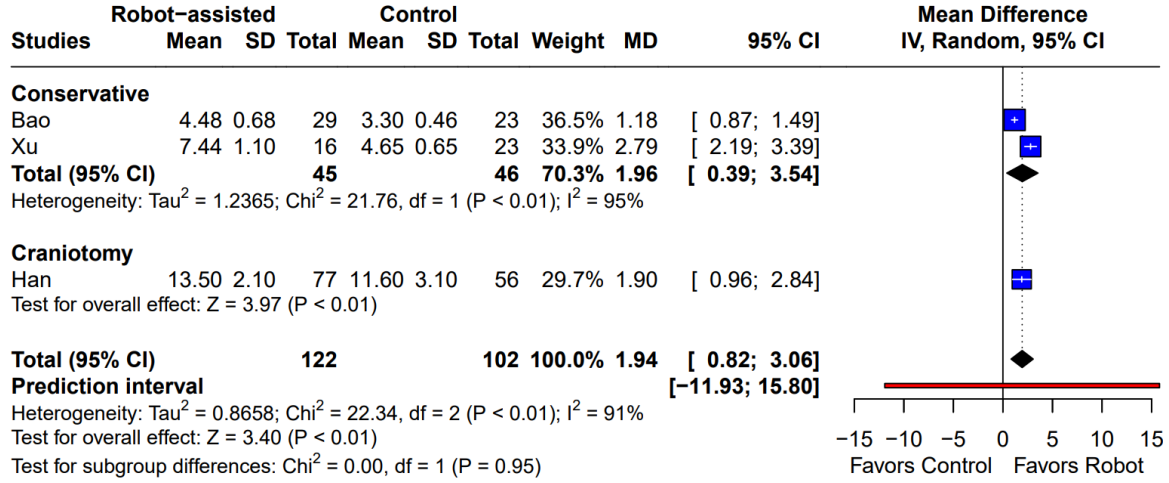
SFigure 151: Favorable MRS



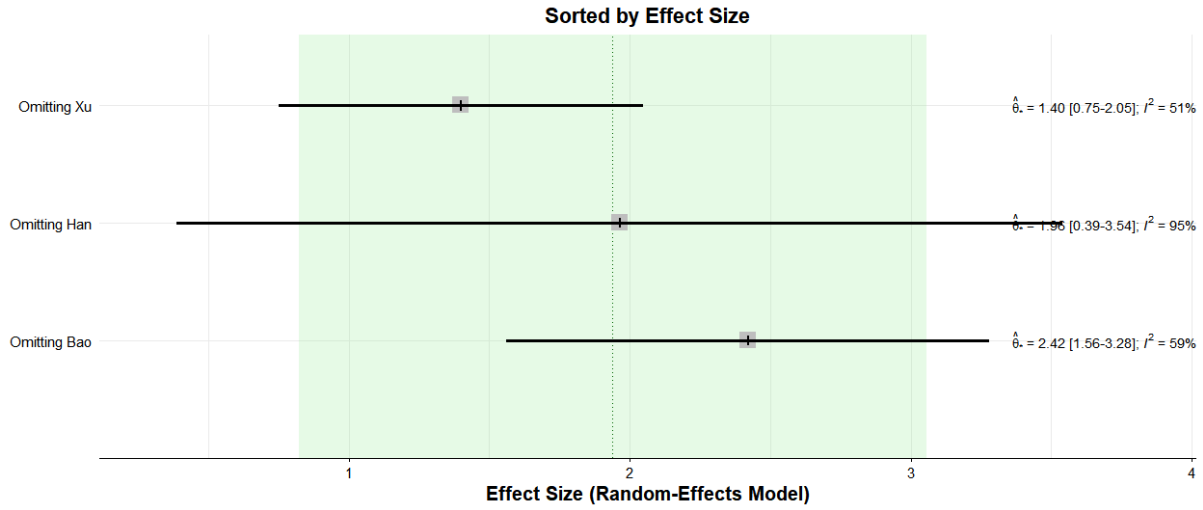
SFigure 152: Leave-one out favorable MRS



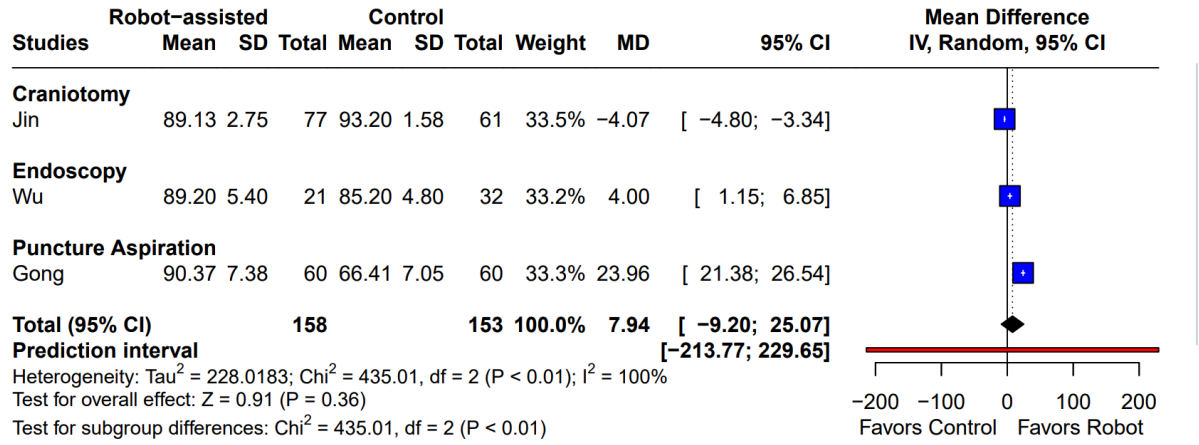
SFigure 153: Mean GCS score



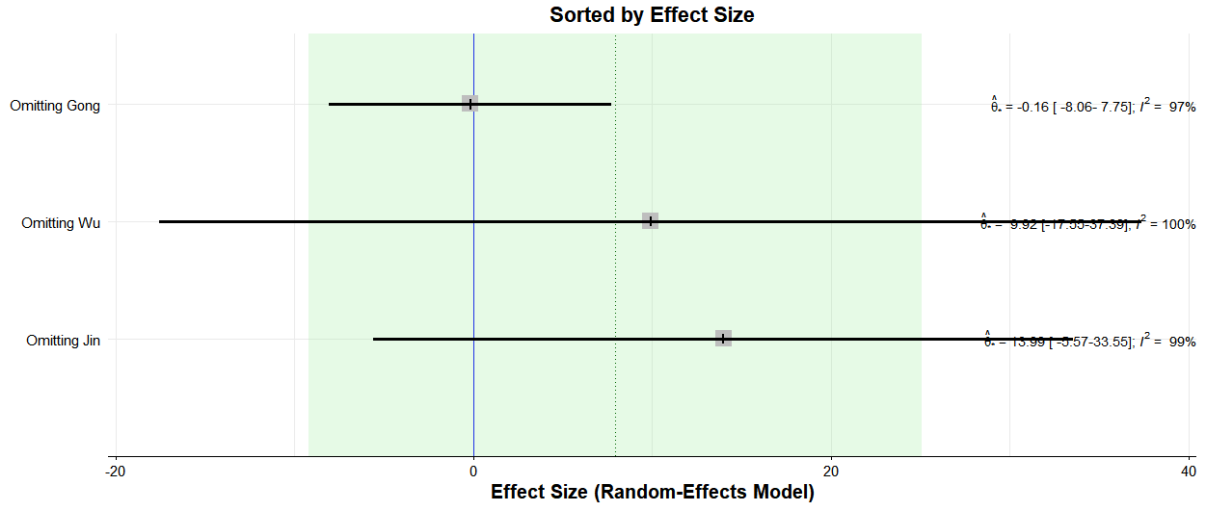
SFigure 154: Leave-one out mean GCS score



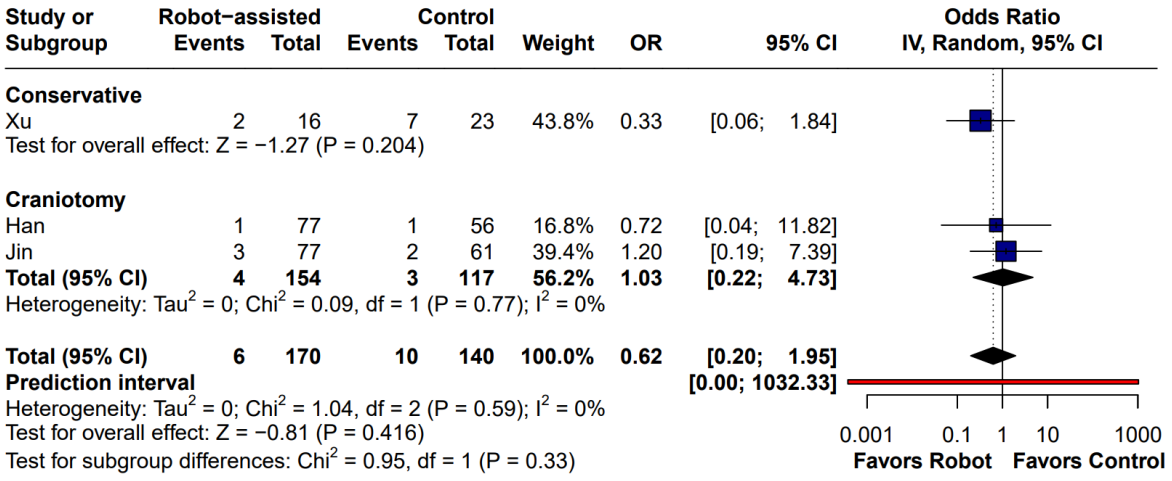
SFigure 155: Hematoma reduction (%)



SFigure 156: Leave-one out hematoma reduction (%)

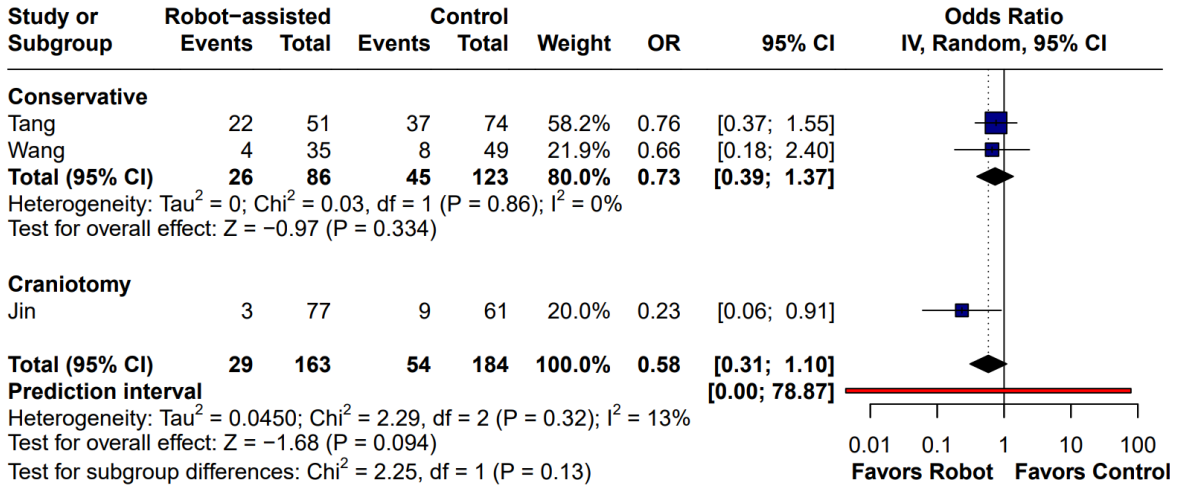


SFigure 157: Post-surgical mortality

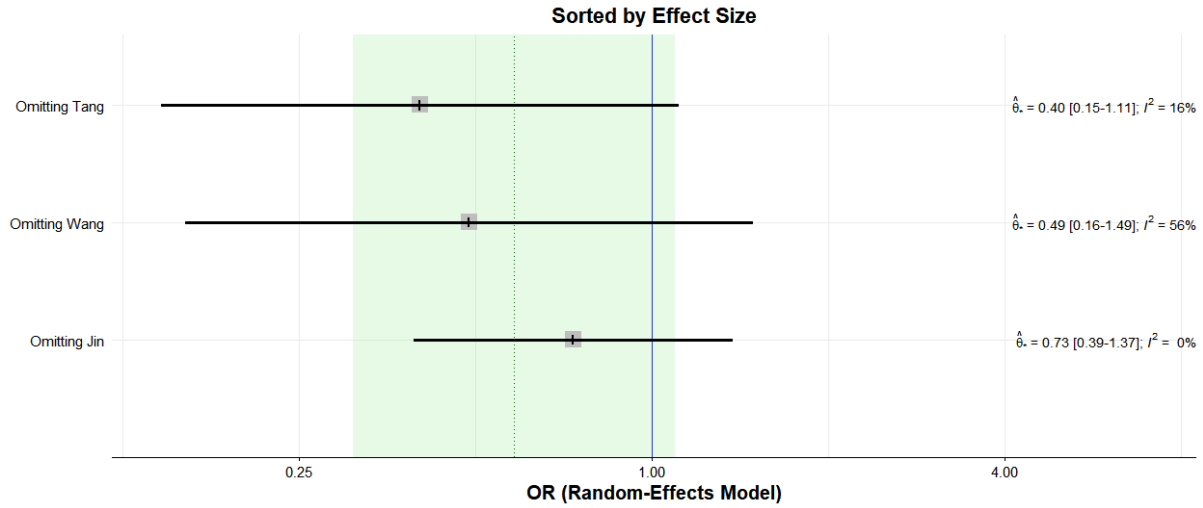


SFigure 158: Leave-one out post-surgical mortality

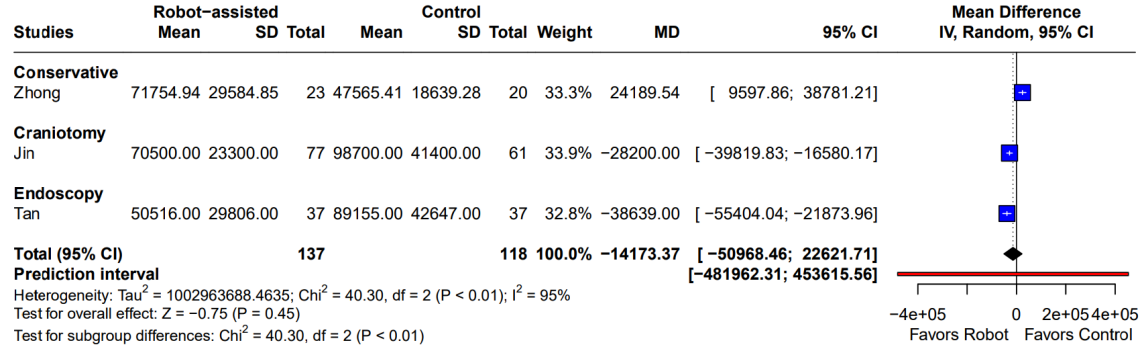
SFigure 159: Stress ulcers



SFigure 160: Leave-one out stress ulcers



SFigure 161: Hospitalization cost



SFigure 162: Leave-one out hospitalization cost