

**Supplementary Table S1:** Patient demographics and interventional characteristics.

| ID                 | sex | age | ILP arm/leg | surgical approach | regional anesthesia | PDK/SKP | TNF | Melphalan | extremity volume [l] | time of perfusion [min.] | leakage | RaM | substituted volume | surgical procedure [min.] | BLt [ml] | body hight [cm] | body weight [kg] | neoadjuvant CTX/RTX | preoperative Hb [g/dl] | preoperative Hc [%] | postoperative Hb [g/dl] | postoperative Hc [%] | postoperative transfusion |
|--------------------|-----|-----|-------------|-------------------|---------------------|---------|-----|-----------|----------------------|--------------------------|---------|-----|--------------------|---------------------------|----------|-----------------|------------------|---------------------|------------------------|---------------------|-------------------------|----------------------|---------------------------|
| Intervention Group |     |     |             |                   |                     |         |     |           |                      |                          |         |     |                    |                           |          |                 |                  |                     |                        |                     |                         |                      |                           |
| RA01               | m   | 80  | arm         | brachial          | yes                 | SKP     | 1mg | 30mg      | 4,54                 | 94                       | <3%     | no  | 4000ml             | 237                       | 1400     | 174             | 74               | no                  | 11.7                   | 36.5                | 6.5                     | 19.5                 | 1 RBC                     |
| RA02               | m   | 48  | arm         | brachial          | yes                 | SKP     | 1mg | 40mg      | 4,08                 | 92                       | <1%     | no  | 6000ml             | 216                       | 700      | 180             | 92               | CTX                 | 12.0                   | 35.2                | 10.1                    | 31.0                 |                           |
| RA03               | m   | 55  | arm         | brachial          | yes                 | SKP     | 1mg | 35mg      | 3,29                 | 92                       | 3,50%   | no  | 7000ml             | 226                       | 2000     | 181             | 93               | CTX                 | 15.4                   | 43.2                | 8.1                     | 23.0                 |                           |
| RA04               | m   | 82  | arm         | brachial          | yes                 | SKP     | 1mg | 35mg      | 2,40                 | 94                       | <1%     | no  | 3000ml             | 247                       | 550      | 168             | 61               | no                  | 13.6                   | 41.1                | 11.1                    | 32.7                 |                           |
| RA05               | m   | 64  | arm         | brachial          | yes                 | SKP     | 1mg | 40mg      | 2,78                 | 95                       | 5%      | no  | 5000ml             | 245                       | 1200     | 184             | 68               | no                  | 8.0                    | 22.5                | 8.4                     | 26.5                 | 1 RBC                     |
| RA06               | m   | 15  | leg*        | femoral           | yes                 | PDK     | 1mg | 60mg      | 7,06                 | 69                       | <1%     | yes | 5000ml             | 132                       | 750      | 173             | 58               | CTX                 | 10.1                   | 28.8                | 7.6                     | 22.1                 | 2 RBC                     |
| RA07               | f   | 13  | leg*        | femoral           | yes                 | PDK     | 1mg | 30mg      | 4,38                 | 93                       | <1%     | no  | 3000ml             | 227                       | 800      | 157             | 33               | CTX                 | 12.0                   | 34.1                | 8.5                     | 24.0                 | 1 RBC                     |
| RA08               | m   | 7   | leg*        | femoral           | yes                 | PDK     | 1mg | 25mg      | 2,82                 | 94                       | <1%     | no  | 3000ml             | 197                       | 700      | 116             | 19               | no                  | 12.1                   | 34.4                | 10.1                    | 28.3                 | 1 RBC                     |
| RA09               | m   | 82  | leg         | femoral           | yes                 | PDK     | 2mg | 80mg      | 10,91                | 97                       | 2%      | yes | 5000ml             | 228                       | 1400     | 168             | 87               | no                  | 12.8                   | 37.6                | 8.0                     | 23.8                 |                           |
| RA10               | m   | 80  | leg         | iliacal           | yes                 | PDK     | 2mg | 120mg     | 12,32                | 92                       | 2%      | yes | 5000ml             | 232                       | 800      | 170             | 100              | no                  | 11.8                   | 36.1                | 6.9                     | 20.8                 |                           |
| RA11               | f   | 67  | leg         | iliacal           | yes                 | PDK     | 2mg | 120mg     | 17,64                | 96                       | 7%      | no  | 6000ml             | 311                       | 2500     | 165             | 119              | no                  | 15.0                   | 45.2                | 11.4                    | 32.9                 |                           |
| RA12               | m   | 76  | leg         | femoral           | yes                 | PDK     | 2mg | 80mg      | 7,83                 | 93                       | <1%     | no  | 5000ml             | 190                       | 1500     | 170             | 70               | no                  | 9.1                    | 30.2                | 6.8                     | 20.5                 | 2 RBC                     |
| RA13               | m   | 49  | leg         | iliacal           | yes                 | PDK     | 2mg | 120mg     | 12,00                | 73                       | 10%     | no  | 8000ml             | 248                       | 500      | 183             | 83               | CTX                 | 14.1                   | 40.4                | 7.9                     | 22.7                 |                           |
| RA14               | m   | 65  | leg         | femoral           | yes                 | PDK     | 2mg | 70mg      | 10,30                | 93                       | <4%     | yes | 7000ml             | 247                       | 2500     | 170             | 94               | no                  | 15.8                   | 43.4                | 7.8                     | 21.7                 |                           |
| RA15               | f   | 77  | leg         | femoral           | yes                 | PDK     | 2mg | 70mg      | 8,78                 | 93                       | <5%     | no  | 3000ml             | 222                       | 1200     | 162             | 71               | CTX                 | 10.6                   | 30.8                | 6.4                     | 18.5                 | 1 RBC                     |
| RA16               | f   | 81  | leg         | femoral           | yes                 | PDK     | 2mg | 70mg      | 9,39                 | 93                       | <5%     | yes | 4000ml             | 193                       | 1200     | 160             | 64               | no                  | 12.8                   | 39.4                | 6.8                     | 20.5                 |                           |
| RA17               | f   | 83  | leg         | femoral           | yes                 | PDK     | 2mg | 60mg      | 9,60                 | 90                       | <1%     | no  | 4000ml             | 219                       | 1000     | 164             | 70               | no                  | 13.5                   | 38.8                | 7.4                     | 21.0                 | 1 RBC                     |
| Control Group      |     |     |             |                   |                     |         |     |           |                      |                          |         |     |                    |                           |          |                 |                  |                     |                        |                     |                         |                      |                           |

|      |   |    |     |            |    |     |       |       |    |        |     |        |     |      |     |     |         |      |      |      |      |                                    |
|------|---|----|-----|------------|----|-----|-------|-------|----|--------|-----|--------|-----|------|-----|-----|---------|------|------|------|------|------------------------------------|
| AA01 | m | 78 | arm | brachial   | no | 1mg | 30mg  | 3,30  | 97 | < 5%   | yes | 6000ml | 266 | 2200 | 174 | 82  | CTX/RTX | 12.8 | 38.7 | 7.8  | 22.8 |                                    |
| AA02 | m | 75 | arm | brachial   | no | 1mg | 30mg  | 3,14  | 90 | < 1%   | no  | 6000ml | 286 | 1300 | 170 | 77  | CTX     | 10.6 | 30.6 | 7.5  | 20.9 | 2 RBC                              |
| AA03 | m | 55 | arm | brachial   | no | 1mg | 40mg  | 4,96  | 96 | < 2%   | yes | 7000ml | 235 | 1600 | 180 | 106 | CTX     | 12.0 | 34.3 | 8.2  | 24.2 |                                    |
| AA04 | m | 56 | arm | brachial   | no | 1mg | 30mg  | 2,77  | 88 | < 1%   | yes | 3000ml | 201 | 1000 | 181 | 88  | no      | 12.2 | 36.2 | 7.4  | 21.3 |                                    |
| AA05 | m | 17 | arm | brachial   | no | 1mg | 20mg  | 2,65  | 89 | < 1%   | yes | 7000ml | 231 | 2000 | 180 | 80  | CTX/RTX | 10.5 | 30.6 | 8.4  | 23.6 |                                    |
| AA06 | m | 83 | arm | axillary   | no | 1mg | 50mg  | 3,76  | 90 | 2%     | no  | 5000ml | 278 | 1100 | 180 | 80  | no      | 13.9 | 40.2 | 9.9  | 27.2 |                                    |
| AA07 | m | 65 | arm | brachial   | no | 1mg | 30mg  | 3,73  | 94 | < 1%   | yes | 4000ml | 229 | 1400 | 196 | 92  | CTX     | 11.2 | 33.1 | 6.1  | 17.6 |                                    |
| AA08 | f | 27 | arm | brachial   | no | 1mg | 20mg  | 1,89  | 89 | < 5%   | no  | 3000ml | 240 | 600  | 164 | 49  | no      | 13.9 | 39.0 | 9.0  | 24.8 |                                    |
| AA09 | m | 56 | leg | femoral    | no | 2mg | 100mg | 12,84 | 93 | 8%     | yes |        | 237 | 2500 | 180 | 101 | no      | 16.7 | 48.5 | 10.3 | 28.6 |                                    |
| AA10 | f | 30 | leg | iliacal    | no | 2mg | 120mg | 13,81 | 88 | < 1%   | no  | 5000ml | 243 | 1500 | 165 | 85  | no      | 14.4 | 43.1 | 8.4  | 24.4 |                                    |
| AA11 | m | 36 | leg | adductoral | no | 2mg | 100mg | 14,37 | 90 | < 1%   | no  | 4000ml | 260 | 1200 | 182 | 114 | CTX     | 11.9 | 34.4 | 8.7  | 25.2 |                                    |
| AA12 | f | 81 | leg | femoral    | no | 2mg | 80mg  | 9,28  | 91 | < 1%   | no  | 5000ml | 211 | 900  | 168 | 68  | no      | 13.7 | 40.9 | 9.1  | 25.7 |                                    |
| AA13 | m | 25 | leg | iliacal    | no | 2mg | 100mg | 10,62 | 92 | < 1%   | no  | 5500ml | 240 | 1000 | 173 | 67  | CTX     | 12.3 | 36.7 | 8.9  | 26.5 |                                    |
| AA14 | m | 51 | leg | iliacal    | no | 2mg | 100mg | 11,35 | 86 | < 5%   | yes | 7000ml | 230 | 2500 | 180 | 86  | CTX     | 9.5  | 28.8 | 7.5  | 21.2 | 3 RBC (+ 1 RBC prior to perfusion) |
| AA15 | f | 69 | leg | femoral    | no | 2mg | 80mg  | 7,85  | 94 | < 3%   | yes | 5000ml | 257 | 2400 | 172 | 68  | no      | 13.0 | 37.8 | 8.5  | 24.6 | 2 RBC                              |
| AA16 | f | 23 | leg | iliacal    | no | 2mg | 80mg  | 7,94  | 94 | < 0,5% | yes | 5000ml | 218 | 1500 | 175 | 59  | RTX     | 12.7 | 38.4 | 6.4  | 18.2 |                                    |
| AA17 | m | 78 | leg | femoral    | no | 2mg | 80mg  | 10,95 | 93 | < 1%   | yes | 5000ml | 229 | 1000 | 181 | 79  | no      | 11.3 | 35.0 | 7.5  | 21.2 |                                    |

\* ILP of the lower extremity with PDK in a child was assigned to the upper extremity intervention group because of comparable extremity volume and adapted dosage of melphalan and TNF-a.

ILP, isolated limb perfusion; PDK, peridural catheter; SKP, suprascapular block; RaM, response after melphalan; BLt, total blood loss; RBC, unit of red blood cells