

## Online Supplementary Table

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**Table S1. Search terms and results.**

Database	Dates searched	Search terms	Results found
MEDLINE (Pubmed)	Jun 1 <sup>st</sup> 2020	#1: tranexamic acid[MeSH] OR tranexamic acid[tiab] OR TXA[tiab]	6177
		#2: randomized controlled	762960
		#3: controlled clinical trial [pt]	604335
		#4: placebo [tiab]	213661
		#5: drug therapy [sh]	2238246
		#6: randomly [tiab]	335230
		#7: trial [tiab]	598168
		#8: groups [tiab]	2081567
		#9: #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8	4864342
		#10: animals [mh] NOT humans [mh]	4743556
		#11: #9 NOT #10	4230945
		#12: #1 AND #9	3039
Cochrane Central Register of Controlled Trials	Jun 1 <sup>st</sup> 2020	#1: mh Tranexamic acid	1005
		#2: Tranexamic acid:ti,ab,kw	2709
		#3: TXA:ti,ab,kw	853
		#4: #1 OR #2 OR #3	2657
		#5: #4, Limits; Trials:	2616
Embase	Jun 1 <sup>st</sup> 2020	#1: EMB.EXACT.EXPLODE("tranexamic acid")	12781
		#2: TI,AB(tranexamic acid)	6496
		#3: TI,AB(TXA)	5919
		#4: #1 OR #2 OR #3	17658
		#5: 'crossover procedure':de OR 'double-blind procedure':de OR 'randomized controlled trial':de OR 'single-blind procedure':de OR (random* OR factorial* OR crossover* OR cross NEXT/1 over* OR placebo* OR doubl* NEAR/1 blind* OR singl* NEAR/1 blind* OR assign* OR allocat* OR volunteer*):de,ab,ti	2540998
		#6: (#4 and #5)	3451

**Table S2. Characteristics of included randomized controlled trials**

Source	Study characteristics	Population	No. of patients	Mean age (years) TXA/Control	Percentage of female TXA/Control	Percentage of anticoagulant/ antiplatelet TXA/Control	Intervention	
							TXA	Control
Abdel-Aleem 2013 <sup>1</sup>	Single center	Obstetrics and gynecology	740	26/16	100/100	NA	1g TXA bolus	No treatment
Abdul 2019 <sup>2</sup>	Single center	Obstetrics and gynecology	80	NA/35	100/100	NA	NA	Placebo
Aguilera 2013 <sup>3</sup>	Single center	Orthopaedic surgery	83	72/75	91/84	NA	1g TXA bolus followed by 1g bolus	No treatment
Aguilera 2015 <sup>4</sup>	Multicenter	Orthopaedic surgery	100	72/74	76/64	NA	1g TXA bolus followed by 1g bolus	No treatment
Ahmed 2014 <sup>5</sup>	Single center	Obstetrics and gynecology	124	29/27	100/100	NA	10mg/kg TXA bolus	No treatment
Ahn 2012 <sup>6</sup>	Single center	Cardiac surgery	76	69/67	40/53	100/100	1g TXA bolus followed 200mg/hr maintenance	Placebo
Akgul 2016 <sup>7</sup>	Single center	Orthopaedic surgery	70	NA	NA	NA	20mg/kg TXA bolus	No treatment
Alimian 2011 <sup>8</sup>	Single center	Head and neck surgery	84	33/35	40/43	NA	10mg/kg TXA bolus	Placebo
Alizadeh 2015 <sup>9</sup>	Single center	Cardiac surgery	200	58/59	70/65	NA	10mg/kg TXA bolus followed by 0.5- 2mg/kg/hr maintenance	Placebo
Altun 2017 <sup>10</sup>	Single center	Cardiac surgery	54	65/62	14/10	100/100	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	No treatment
Alvarez 2008 <sup>11</sup>	Single center	Orthopaedic surgery	95	71/72	85/80	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Alvarez 2019 <sup>12</sup>	Single center	Orthopaedic surgery	44	69/71	73/73	NA	10mg/kg TXA bolus	Placebo

Andreasen 2004 <sup>13</sup>	Single center	Cardiac surgery	44	62/64	14/17	NA	1g TXA bolus followed by 200mg/hr maintenance until additional 1.5g	Placebo
Apipan 2018 <sup>14</sup>	Single center	Oral and maxillofacial surgery	80	26,25,26/25	80,75,60/60	NA	10mg/kg TXA bolus/ 15mg/kg TXA bolus/ 20mg/kg TXA bolus	Placebo
Armellin 2001 <sup>15</sup>	Single center	Cardiac surgery	283	66/66	50/36	13/7	2.5g TXA bolus followed by 2.5g bolus	Placebo
Auvinen 1987 <sup>16</sup>	Single center	Otorhinolaryngology	76	50/51	90/95	NA	0.5g TXA bolus followed by 0.5 g bolus during each 8 h until 24h	Placebo
Avvisati 1989 <sup>17</sup>	Multicenter	Hematologic	12	35/40	50/67	NA	1g TXA bolus	Placebo
Barrachina 2016 <sup>18</sup>	Multicenter	Orthopaedic surgery	108	69,62/68	54,44/43	NA	10mg/kg TXA bolus / 15mg/kg TXA bolus	Placebo
Baruah 2016 <sup>19</sup>	Single center	Orthopaedic surgery	60	58/55	20/17	NA	15mg/kg TXA bolus	Placebo
Batibay 2018 <sup>20</sup>	Single center	Orthopaedic surgery	70	36/35	NA	NA	10mg/kg TXA bolus	Placebo
Benoni 1996 <sup>21</sup>	Single center	Orthopaedic surgery	86	76/74	70/77	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Benoni 2000 <sup>22</sup>	Single center	Orthopaedic surgery	40	70/68	70/42	NA	20mg/kg TXA bolus	Placebo
Benoni 2001 <sup>23</sup>	Single center	Orthopaedic surgery	38	66/68	50/50	NA	10mg/kg TXA bolus	Placebo
Bidolegui 2014 <sup>24</sup>	Single center	Orthopaedic surgery	50	72/72	60/80	NA	15mg/kg TXA bolus	Placebo
Boylan 1996 <sup>25</sup>	Single center	Hepatic surgery	45	50/49	NA	NA	40mg/kg/hr TXA continuous infusion (maximum 20g)	Placemo

Brown 1997 <sup>26</sup>	Single center	Cardiac surgery	90	62,62/59	20,17/20	100/100	15mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Bulutcu 2005 <sup>27</sup>	Single center	Cardiac surgery	50	4/4	40/50	NA	100mg/kg TXA bolus followed by 100mg/kg bolus and 100mg/kg bolus	No treatment
Caglar 2008 <sup>28</sup>	Single center	Obstetrics and gynecology	100	34/35	100/100	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Cansancao 2018 <sup>29</sup>	Single center	Plastic surgery	20	40/36	NA	NA	20mg/kg TXA bolus	Placebo
Carabini 2017 <sup>30</sup>	Single center	Orthopaedic surgery	61	65/68	68/70	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Casati 2001 <sup>31</sup>	Single center	Cardiac surgery	510	64,61/64	40,31/36	32/32	1mg/kg/hr TXA continuous infusion / 2mg/kg/hr TXA continuous infusion for 12hr	Placebo
Casati 2002 <sup>32</sup>	Single enter	Cardiac surgery	60	59/63	21/34	41/38	400mg/hr TXA continuous infusion followed by 500mg bolus	Placebo
Casati 2004 <sup>33</sup>	Single enter	Cardiac surgery	102	64/61	15/16	38/44	1g TXA bolus followed 400mg/hr maintenance	Placebo
Chakravarthy 2012 <sup>34</sup>	Single center	Cardiac surgery	50	58/60	20/14	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Chakroun-Walha 2019 <sup>35</sup>	Single center	Trauma	180	44/39	11/8	NA	1g TXA bolus followed by 1g maintenance over 8hr	Placebo
Chandra 1978 <sup>36</sup>	Single center	Intracranial hemorrhage	39	NA	45/47	NA	1g TXA bolus followed by 1g bolus every 4hr	Placebo

Chareancholvanich 2012 <sup>37</sup>	Single center	Orthopaedic surgery	240	69/68	86/86	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Charoencholvanich 2011 <sup>38</sup>	Single center	Orthopaedic surgery	100	69/69	86/84	NA	10mg/kg TXA bolus followed by 10mg/kg bolus and orally for 5 days	Placebo
Chauhan 2003 <sup>39</sup>	Single center	Cardiac surgery	120	4/4	16/26	NA	10mg/kg TXA bolus followed by 10mg/kg bolus and 10mg/kg bolus	No treatment
Chauhan 2004 <sup>40</sup>	Single center	Cardiac surgery	100	4/4	28/30	NA	10mg/kg TXA bolus followed by 10mg/kg bolus and 10mg/kg bolus	No treatment
Chen 2016 <sup>41</sup>	Single center	Orthopaedic surgery	120	67/64	73/77	NA	1g TXA bolus	Placebo
Chen 2019 <sup>42</sup>	Single center	Orthopaedic surgery	176	77/77	56/58	NA	15mg/kg TXA bolus followed by 15mg/kg bolus and 15mg/kg bolus	Placebo
Chin 2020 <sup>43</sup>	Single center	Orthopaedic surgery	81	NA	NA	NA	1g TXA bolus	Placebo
Choi 2009 <sup>44</sup>	Single center	Oral and maxillofacial surgery	61	24/23	31/38	NA	20mg/kg TXA bolus	Placebo
Christabel 2014 <sup>45</sup>	Single center	Oral and maxillofacial surgery	49	24/23	NA/62	NA	10mg/kg TXA bolus	Placebo
Claeys 2007 <sup>46</sup>	Single center	Orthopaedic surgery	40	73/68	75/65	7/4	15mg/kg TXA bolus	Placebo
Clave 2019 <sup>47</sup>	Multicenter	Orthopaedic surgery	229	65,67/64	60,56/56	NA	1g TXA bolus followed by 1g bolus /1g TXA bolus followed by 1g bolus at postoperative hour 3, 7, 11	Placebo
Cohen 2020 <sup>48</sup>	Single center	Plastic surgery	44	59/62	100/100	NA	1g TXA bolus by 1g bolus	Placebo

Colomina 2016 <sup>49</sup>	Multicenter	Orthopaedic surgery	95	59/61	66/73	NA	10mg/kg TXA bolus followed by 2mg/kg/hr maintenance	Placebo
Crescenti 2011 <sup>50</sup>	Single center	Urological	200	64/64	0/0	17/10	500mg TXA bolus followed by 200mg/hr maintenance	Placebo
Cvetanovich 2018 <sup>51</sup>	Single center	Orthopaedic surgery	108	68/65	48/50	NA	1g TXA bolus	Placebo
Dadure 2011 <sup>52</sup>	Single center	Oral and maxillofacial surgery	39	0.5/0.5	11/15	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Diprose 2005 <sup>53</sup>	Single center	Cardiac surgery	123	65/65	21/16	NA	5g TXA bolus	Placebo
Ducloy-Bouthors 2011 <sup>54</sup>	Multicenter	Obstetrics and gynecology	144	29/28	100/100	NA	4g TXA infusion over an hour followed by 1g/hr maintenance	Placebo
Ebrahimi 2019 <sup>55</sup>	Single center	Trauma	80	32/32	18/13	NA	1g TXA bolus followed by 1g maintenance over 8hr	Placebo
Ekback 2000 <sup>56</sup>	Single center	Orthopaedic surgery	40	66/66	55/45	NA	10mg/kg TXA bolus followed by 10mg/kg bolus and 1mg/kg/hr maintenance	Placebo
Eldaba 2013 <sup>57</sup>	Single center	Otorhinolaryngology	100	7/7	59/66	NA	25mg/kg TXA bolus	Placebo
Elwatidy 2008 <sup>58</sup>	Single center	Orthopaedic surgery	64	52/50	34/44	NA	2g TXA bolus followed by 100mg/hr maintenance	Placebo
Emara 2014 <sup>59</sup>	Single center	Orthopaedic surgery	40	57/56	40/30	NA	10mg/kg TXA bolus followed by 5mg/kg/hr maintenance	Placebo
Engel 2001 <sup>60</sup>	Single center	Orthopaedic surgery	24	71/66	67/67	NA	15mg/kg TXA bolus followed by 10mg/kg maintenance	No treatment
Engqvist 1979 <sup>61</sup>	Single center	Gastrointestinal	149	59/56	27/16	NA	1g TXA bolus followed by	Placebo

hemorrhage							1g bolus every 4hr	
Esfandiari 2012 <sup>62</sup>	Single center	Cardiac surgery	150	54/55	NA	NA	10mg/kg TXA bolus followed by 1mg/kg bolus	Placebo
Ezhevskaya 2018 <sup>63</sup>	Single center	Orthopaedic surgery	160	15/16	88/93	NA	15mg/kg TXA bolus followed by 2mg/kg/hr maintenance	Placebo
Faraoni 2014 <sup>64</sup>	Single center	Cardiac surgery	36	71,61/62	NA	NA	30mg/kg TXA bolus followed by 16mg/kg/hr maintenance/ 5mg/kg TXA bolus followed by 5mg/kg/hr maintenance	Placebo
Farrokhi 2011 <sup>65</sup>	Single center	Orthopaedic surgery	76	46/51	82/71	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Felli 2019 <sup>66</sup>	Single center	Orthopaedic surgery	80	31/32	33/10	NA	15mg/kg TXA bolus	Placebo
Fenger-Eriksen 2019 <sup>67</sup>	Single center	Oral and maxillofacial surgery	30	8/7	NA	NA	10ml/kg TXA bolus followed by 3ml/kg/hr maintenance	Placebo
Fodstad 1981 <sup>68</sup>	Single center	Intracranial hemorrhage	59	50/53	57/59	NA	1g TXA bolus followed by 1g bolus every 4hr during the 1st and 2nd week.	Placebo
Fraval 2016 <sup>69</sup>	Single center	Orthopaedic surgery	101	60/60	36/45	NA	15mg/kg TXA bolus followed by 15mg/kg bolus and 15mg/kg bolus	Placebo
Gai 2004 <sup>70</sup>	Multicenter	Obstetrics and gynecology	180	30/30	100/100	NA	1g TXA bolus	No treatment
Garg 2012 <sup>71</sup>	Single center	Orthopaedic surgery	52	NA	NA	NA	15mg/kg TXA bolus	Placebo
Garneti 2004 <sup>72</sup>	Single center	Orthopaedic surgery	50	70/68	NA	NA	10mg/kg TXA bolus	Placebo



Goobie 2011 <sup>73</sup>	Single center	Neurosurgery	43	23/25	35/45	NA	50mg/kg TXA bolus followed by 5mg/kg/hr maintenance	Placebo
Goobie 2018 <sup>74</sup>	Single center	Orthopaedic surgery	111	15/15	18/24	NA	50mg/kg TXA bolus followed by 10mg/kg/hr maintenance	Placebo
Good 2003 <sup>75</sup>	Single center	Orthopaedic surgery	51	72/72	67/75	NA	10mg/kg TXA bolus	Placebo
Goswami 2013 <sup>76</sup>	Single center	Obstetrics and gynecology	90	23/24	100/100	NA	10mg/kg TXA bolus/ 15mg/kg TXA bolus	Placebo
Greiff 2012 <sup>77</sup>	Single center	Cardiac surgery	63	77/77	40/42	100/100	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Gungorduk 2011 <sup>78</sup>	Single center	Obstetrics and gynecology	660	27/26	100/100	NA	1g TXA bolus	Placebo
Gungorduk 2013 <sup>79</sup>	Single center	Obstetrics and gynecology	439	28/28	100/100	NA	1g TXA bolus	Placebo
Gupta 2012 <sup>80</sup>	Single center	Obstetrics and gynecology	60	46/48	100/100	NA	1g TXA bolus	Placebo
Hardy 1998 <sup>81</sup>	Single center	Cardiac surgery	88	NA	37/16	NA	10g TXA bolus	Placebo
Helito 2019 <sup>82</sup>	Single center	Orthopaedic surgery	60	NA	NA	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	No treatment
Hiippala 1995 <sup>83</sup>	Single center	Orthopaedic surgery	28	70/70	87/77	NA	15mg/kg TXA bolus	Placebo
Hiippala 1997 <sup>84</sup>	Single center	Orthopaedic surgery	77	70/69	90/79	NA	15mg/kg TXA bolus followed by 10mg/kg bolus and 10mg/kg bolus	Placebo
Hillman 2002 <sup>85</sup>	Single center	Intracranial hemorrhage	504	NA	65/65	NA	1g TXA bolus followed by 1g bolus every 6hr	No treatment
Hooda 2015 <sup>86</sup>	Single center	Neurosurgery	60	39/42	53/77	NA	20mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo

Horrow 1991 <sup>87</sup>	Single center	Cardiac surgery	81	65/64	NA	100/100	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Horrow 1995 <sup>88</sup>	Single center	Cardiac surgery	148	67,61,66,63, 65/63	25,14,14,19, 22/15	100/100	6 groups ranged from quarter 2.5mg/kg TXA bolus followed by 0.25mg/kg/hr maintenance to twice 20mg/kg TXA bolus followed by 2mg/kg/hr maintenance	Placebo
Hsu 2015 <sup>89</sup>	Single center	Orthopaedic surgery	60	57/60	63/50	NA	1g TXA bolus followed by 1g bolus	Placebo
Husted 2003 <sup>90</sup>	Single center	Orthopaedic surgery	40	65/67	65/70	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Jansen 1999 <sup>91</sup>	Single center	Orthopaedic surgery	42	71/71	76/86	NA	15mg/kg TXA bolus followed by 15mg/kg bolus every 8hr	Placebo
Jares 2003 <sup>92</sup>	Single center	Cardiac surgery	47	NA	31/20	100/100	1g TXA bolus followed by 200mg/hr maintenance	No treatment
Jaszczyk 2015 <sup>93</sup>	Single center	Orthopaedic surgery	124	65/66	51/49	NA	15mg/kg TXA bolus	Placebo
Johansson 2005 <sup>94</sup>	Multicenter	Orthopaedic surgery	100	69/68	47/47	NA	15mg/kg TXA bolus	Placebo
Jokar 2017 <sup>95</sup>	Single center	Trauma	80	35/36	10/15	NA	1g TXA bolus followed by 1g maintenance over 8hr	Placebo
Kakar 2009 <sup>96</sup>	Single center	Orthopaedic surgery	50	63/67	72/72	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Karaaslan 2015 <sup>97</sup>	Single center	Orthopaedic surgery	105	28/28	4/6	NA	15mg/kg TXA bolus followed by 10mg/kg/hr maintenance	Placebo

Karski 1995 <sup>98</sup>	Single center	Cardiac surgery	147	59,63/58	NA	100/100	10g TXA bolus/ 10g TXA bolus followed by another 10g maintenance over 5hr	Placebo
Karski 2005 <sup>99</sup>	Single center	Cardiac surgery	312	60/60	13/11	100/100	100mg/kg TXA bolus	Placebo
Kaste 1979 <sup>100</sup>	Single center	Intracranial hemorrhage	64	NA	50/56	NA	1g TXA bolus followed by 1g bolus every 6hr	Placebo
Katsaros 1996 <sup>101</sup>	Single center	Cardiac surgery	210	65/63	35/25	NA	10g TXA bolus	Placebo
Kazemi 2010 <sup>102</sup>	Single center	Orthopaedic surgery	64	47/45	28/38	NA	15mg/kg TXA bolus	Placebo
Keyhani 2015 <sup>103</sup>	Single center	Orthopaedic surgery	80	68/64	35/53	NA	0.5g TXA bolus	Placebo
Kim 2014 <sup>104</sup>	Single center	Orthopaedic surgery	180	74/72	88/87	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	No treatment
Kim 2017 <sup>105</sup>	Single center	Orthopaedic surgery	72	63,61/65	33,50/63	NA	5mg/kg TXA bolus followed by 1mg/kg/hr maintenance/ 10mg/kg TXA bolus followed by 2mg/kg/hr maintenance	Placebo
Kimura 2019 <sup>106</sup>	Single center	Orthopaedic surgery	256	55/55	46/48	NA	15mg/kg TXA bolus	Placebo
Kuitunen 2005 <sup>107</sup>	Single center	Cardiac surgery	40	63/65	NA	100/100	15mg/kg TXA bolus followed by 15mg/kg bolus and 15mg/kg bolus	Placebo
Kulkarni 2016 <sup>108</sup>	Single center	Head and neck surgery	240	51/51	25/21	NA	10mg/kg TXA bolus	Placebo
Kundu 2015 <sup>109</sup>	Single center	Orthopaedic surgery	60	60/60	73/77	NA	20mg/kg TXA bolus	Placebo
Lack 2017 <sup>110</sup>	Multicenter	Orthopaedic surgery	88	42/40	16/16	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo

Later 2009 <sup>111</sup>	Single center	Cardiac surgery	202	64/65	26/35	74/67	1g TXA bolus followed by 0.5g bolus and 400mg/hr maintenance	Placebo
Lee 2012 <sup>112</sup>	Single center	Orthopaedic surgery	72	70/69	86/86	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Lee 2013 <sup>113</sup>	Single center	Orthopaedic surgery	68	53/51	41/35	NA	15mg/kg TXA bolus followed by 15mg/kg continuous infusion	Placebo
Lei 2020 <sup>114</sup>	Single center	Orthopaedic surgery	200	66,67,66/65	86,82,80/80	NA	20mg/kg TXA bolus followed by 3 doses of 1g bolus/ followed by 4 doses of 1g/ followed by 5 doses of 1g	No treatment
Lemay 2004 <sup>115</sup>	Single center	Orthopaedic surgery	39	60/54	40/32	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Lin 2012 <sup>116</sup>	Single center	Orthopaedic surgery	151	71,70/70	41,43/43	NA	10mg/kg TXA bolus/ 20mg/kg TXA bolus	Placebo
Liu 2017 <sup>117</sup>	Single center	Orthopaedic surgery	224	64,63/62	55,60/58	NA	10mg/kg TXA bolus/ 15mg/kg TXA bolus	Placebo
Liu 2019 <sup>118</sup>	Single center	Orthopaedic surgery	72	59/60	49/51	NA	1g TXA bolus	Placebo
Lundin 2014 <sup>119</sup>	Multicenter	Obstetrics and gynecology	100	63/65	NA	14/10	15mg/kg TXA bolus	Placebo
Luo 2019 <sup>120</sup>	Single center	Orthopaedic surgery	90	75/76	48/57	NA	15mg/kg TXA bolus followed by 15mg/kg bolus	Placebo
Ma 2019 <sup>121</sup>	Single center	Orthopaedic surgery	124	61/61	58/48	NA	15mg/kg TXA bolus	No treatment
MacGillivray 2011 <sup>122</sup>	Single center	Orthopaedic surgery	60	62,65/66	65,60/75	NA	10mg/kg TXA bolus/ 15mg/kg TXA bolus	Placebo

Maddali 2007 <sup>123</sup>	Single center	Cardiac surgery	222	57/58	28/35	100/100	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Maged 2015 <sup>124</sup>	Single center	Obstetrics and gynecology	200	25/25	100/100	NA	1g TXA bolus	Placebo
Mahmood 2017 <sup>125</sup>	Single center	Orthopaedic surgery	173	66/65	49/63	NA	1g TXA bolus	No treatment
Maniar 2012 <sup>126</sup>	Single center	Orthopaedic surgery	200	67,68,67,67/ 66	75,72,80,82/ 90	NA	10mg/kg TXA bolus/ 10mg/kg TXA bolus followed by 10mg/kg bolus/ 10mg/kg TXA bolus followed by 10mg/kg bolus and 10mg/kg bolus	No treatment
Mansouri 2012 <sup>127</sup>	Single center	Cardiac surgery	60	48/48	NA	100/100	30mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Mehr-Aein 2007 <sup>128</sup>	Single center	Cardiac surgery	66	44/45	8/6	90/94	15mg/kg TXA bolus followed by 15mg/kg bolus	Placebo
Meng 2018 <sup>129</sup>	Single center	Urology	60	71/71	NA	NA	1g TXA bolus	Placebo
Misfeld 1998 <sup>130</sup>	Single center	Cardiac surgery	28	56/59	21/0	100/100	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	No treatment
Molloy 2005 <sup>131</sup>	Single center	Orthopaedic surgery	100	NA	NA	NA	0.5g TXA bolus followed by 0.5g bolus	No treatment
Monaco 2019 <sup>132</sup>	Single center	Cardiac surgery	100	69/71	14/0	62/70	0.5 TXA bolus followed by 250mg/hr maintenance	Placebo
Motiffard 2015 <sup>133</sup>	Single center	Orthopaedic surgery	90	67/66	78/71	NA	0.5g TXA bolus followed by 0.5g bolus	Placebo
Mu 2018 <sup>134</sup>	Single center	Orthopaedic surgery	87	54/53	40/45	NA	15mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Myles 2016 <sup>135</sup>	Multi center	Cardiac surgery	4631	67/67	16/17	83/84	100mg TXA bolus /50mg TXA bolus after 1392 had been enrolled	Placebo

Na 2015 <sup>136</sup>	Single center	Orthopaedic surgery	55	50/53	31/38	NA	10mg/kg TXA bolus	Placebo
Nagabhusan 2018 <sup>137</sup>	Single center	Orthopaedic surgery	50	50/52	36/44	NA	15mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Neilipovitz 2011 <sup>138</sup>	Single center	Orthopaedic surgery	40	14/14	45/72	NA	10mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Nejad 2011 <sup>139</sup>	Single center	Cardiac surgery	100	55/54	18/30	100/100	1g TXA bolus followed by 1g bolus	Placebo
Niskanen 2005 <sup>140</sup>	Single center	Orthopaedic surgery	39	66/65	68/65	NA	10mg/kg TXA bolus	Placebo
Nugent 2017 <sup>141</sup>	Single center	Orthopaedic surgery	41	48/53	33/22	NA	1g TXA bolus	Placebo
Oremus 2013 <sup>142</sup>	Single center	Orthopaedic surgery	98	69/69	16/24	14/10	1g TXA bolus followed by 1g bolus	Placebo
Orpen 2006 <sup>143</sup>	Single center	Orthopaedic surgery	29	73/69	47/79	NA	15mg/kg TXA bolus	Placebo
Painter 2018 <sup>144</sup>	Multicenter	Orthopaedic surgery	140	69/68	61/48	9/12	15mg/kg TXA bolus followed by 15mg/kg bolus	Placebo
Paliija 2020 <sup>145</sup>	Single center	Orthopaedic surgery	80	63/61	52/60	NA	1g TXA bolus followed by 1g bolus	Placebo
Peters 2015 <sup>146</sup>	Single center	Orthopaedic surgery	32	60/43	NA	NA	10mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Pleym 2003 <sup>147</sup>	Single center	Cardiac surgery	80	64/62	15/18	100/100	30mg/kg TXA bolus	Placebo
Prakash 2017 <sup>148</sup>	Single center	Orthopaedic surgery	100	70/68	NA	NA	30mg/kg TXA bolus	Placebo
Prasad 2020 <sup>149</sup>	Single center	Abdominal surgery	60	46,47/49	75.60/75	NA	10mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo

Raksakietisak 2015 <sup>150</sup>	Single center	Orthopaedic surgery	78	53/53	59/69	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Ramezani 2005 <sup>151</sup>	Single center	Ophthalmology	62	57/50	41/47	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	No treatment
Ray 2016 <sup>152</sup>	Single center	Obstetrics and gynecology	100	25/26	100/100	NA	1g TXA bolus	Placebo
Reid 1997 <sup>153</sup>	Single center	Cardiac surgery	41	3/3	NA	100/100	100mg/kg TXA bolus followed by 10mg/kg maintenance	Placebo
Roberts 2019 <sup>154</sup>	Multicenter	Trauma	12737	42/42	19/20	NA	1g TXA bolus followed by 1g infusion over 8hr	Placebo
Roberts 2020 <sup>155</sup>	Multicenter	Gastrointestinal hemorrhage	12009	58/58	36/35	NA	1g TXA bolus followed by 3g infusion over 8hr	Placebo
Ross 2000 <sup>156</sup>	Multicenter	Intracranial hemorrhage	462	55/56	61/69	NA	1g TXA bolus every 4hr in the first week	placebo
Rowell 2020 <sup>157</sup>	Multicenter	Trauma	966	39,40/36	27,26/25	NA	2g TXA bolus/ 1g TXA bolus followed by 1g infusion over 8hr	Placebo
Sahu 2019 <sup>158</sup>	Single center	Obstetrics and gynecology	100	24/24	100/100	NA	1g TXA bolus	No treatment
Sallam 2018 <sup>159</sup>	Single center	Obstetrics and gynecology	86	48/47	100/100	NA	1g TXA infusion over 100 min	Placebo
Sankar 2012 <sup>160</sup>	Single center	Orthopaedic surgery	50	23/24	32/36	NA	10mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Santos 2006 <sup>161</sup>	Single center	Cardiac surgery	60	62/59	38/21	28/26	10mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo

Seddighi 2020 <sup>162</sup>	Single center	Orthopaedic surgery	40	50/44	65/75	NA	10mg/kg TXA bolus followed by 0.5mg/kg maintenance	Placebo
Sentilhes 2018 <sup>163</sup>	Multicenter	Obstetrics and gynecology	3891	30/30	100/100	NA	1g TXA bolus	placebo
Senturk 2013 <sup>164</sup>	Single center	Obstetrics and gynecology	223	30/29	100/100	NA	1g TXA bolus	placebo
Seo 2012 <sup>165</sup>	Single center	Orthopaedic surgery	100	67/68	88/90	NA	1.5g TXA bolus	placebo
Seol 2016 <sup>166</sup>	Single center	Orthopaedic surgery	100	70/68	86/96	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Seviciu 2016 <sup>167</sup>	Single center	Orthopaedic surgery	61	66/63	48/56	NA	20mg/kg TXA bolus	Placebo
Shaaban 2015 <sup>168</sup>	Single center	Obstetrics and gynecology	132	35/35	100/100	NA	10mg/kg TXA bolus followed by 1mg/kg maintenance	No treatment
Shahid 2013 <sup>169</sup>	Single center	Obstetrics and gynecology	74	24/25	100/100	NA	1g TXA bolus	placebo
Shakur 2010 <sup>170</sup>	Multicenter	Trauma	20207	35/35	16/16	NA	1g TXA bolus followed by 1g infusion over 8hr	Placebo
Shakur 2017 <sup>171</sup>	Multicenter	Obstetrics and gynecology	20060	NA	100/100	NA	1g TXA bolus followed by 1g bolus	Placebo
Shen 2015 <sup>172</sup>	Single center	Orthopaedic surgery	92	66/65	80/73	NA	15mg/kg TXA bolus	Placebo
Shi 2013 <sup>173</sup>	Multicenter	Cardiac surgery	552	60/60	23/23	NA	10mg/kg TXA bolus followed by 10mg/kg maintenance	Placebo
Shi 2013 <sup>174</sup>	Single center	Cardiac surgery	117	60/60	20/19	NA	15mg/kg TXA bolus	Placebo
Shi 2016 <sup>175</sup>	Single center	Orthopaedic surgery	96	54/56	50/52	NA	30mg/kg TXA bolus followed by 2mg/kg maintenance	Placebo
Shimizu 2011 <sup>176</sup>	Single center	Cardiac surgery	160	2.5/2.5	48/47	38/41	50mg/kg TXA bolus followed by 15mg/kg maintenance	Placebo



Shore-Lesserson 1996 <sup>177</sup>	Single center	Cardiac surgery	30	68/63	41/23	24/46	20mg/kg TXA bolus followed by 2mg/kg maintenance	Placebo
Spitler 2019 <sup>178</sup>	Single center	Orthopaedic surgery	94	47/43	23/30	NA	15mg/kg TXA bolus followed by 15mg/kg bolus	No treatment
Sprigg 2013 <sup>179</sup>	Single center	Intracranial hemorrhage	24	68/69	37/50	25/13	1g TXA bolus followed by 1g infusion over 8hr	Placebo
Sprigg 2018 <sup>180</sup>	Multicenter	Intracranial hemorrhage	2325	69/69	45/43	27/25	1g TXA bolus followed by 1g infusion over 8hr	Placebo
Stowers 2017 <sup>181</sup>	Multicenter	Orthopaedic surgery	74	71/70	47/83	NA	1.5g TXA bolus	placebo
Sun 2016 <sup>182</sup>	Single center	Orthopaedic surgery	180	67,67,68/68	38,62,78/82	NA	30mg/kg TXA bolus/ 15mg/kg TXA bolus followed by 15mg/kg bolus/ 10mg/kg TXA bolus followed by 10mg/kg bolus and 10mg/kg bolus	Placebo
Taghaddomi 2009 <sup>183</sup>	Single center	Cardiac surgery	100	55/60	24/32	88/92	1g TXA bolus followed by 400mg/hr maintenance	Placebo
Tengberg 2016 <sup>184</sup>	Single center	Orthopaedic surgery	75	80/75	79/64	NA	1g TXA bolus followed by 3g infusion over 24hr	Placebo
Thippampall 2020 <sup>185</sup>	Single center	Orthopaedic surgery	59	48,45/55	29,11/20	NA	10mg/kg TXA bolus/ 10mg/kg TXA bolus followed by 1mg/kg maintenance	Placebo
Tian 2018 <sup>186</sup>	Single center	Orthopaedic surgery	100	78/80	62/72	NA	20mg/kg TXA bolus	No treatment
Topsoe 2016 <sup>187</sup>	Multicenter	Obstetrics and gynecology	332	48/49	NA	NA	1g TXA bolus	placebo
Tsementzis 1990 <sup>188</sup>	Single center	Intracranial hemorrhage	100	NA	60/48	NA	1.5g TXA bolus every 4hr	Placebo

							in the first week	
Tsutsumimoto 2011 <sup>189</sup>	Single center	Orthopaedic surgery	40	68/66	25/20	NA	15mg/kg TXA bolus	Placebo
Vanek 2005 <sup>190</sup>	Single center	Cardiac surgery	62	68/69	50/27	NA	1g TXA bolus followed by 200mg/hr maintenance	Placebo
Vara 2017 <sup>191</sup>	Single center	Orthopaedic surgery	102	67/66	62/55	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Veien 2002 <sup>192</sup>	Single center	Orthopaedic surgery	30	71/70	73/94	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Vel 2015 <sup>193</sup>	Single center	Neurosurgery	100	40/40	40/46	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Vela 2012 <sup>194</sup>	Single center	Orthopaedic surgery	44	NA	NA	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Verma 2014 <sup>195</sup>	Single center	Orthopaedic surgery	83	15/15	89/66	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Vermeulen 1984 <sup>196</sup>	Multicenter	Intracranial hemorrhage	479	50/50	61/61	NA	6g TXA per day during the first week, 4g/day during the second week.	Placebo
Vijay 2013 <sup>197</sup>	Single center	Orthopaedic surgery	90	49/49	78/78	NA	10mg/kg TXA bolus	Placebo
Volquind 2014 <sup>198</sup>	Single center	Orthopaedic surgery	62	68/64	69/70	NA	2.5g TXA bolus	Placebo
von Holstein 1987 <sup>199</sup>	Single center	Gastrointestinal hemorrhage	154	62/65	31/29	NA	1g TXA bolus every 6hr For 3 days	Placebo
Wang, C 2016 <sup>200</sup>	Single center	Orthopaedic surgery	119	58,59/64	54,64/63	NA	10mg/kg TXA bolus/ 20mg/kg TXA bolus	Placebo

Wang, G 2012 <sup>201</sup>	Single center	Cardiac surgery	231	61/60	20/11	NA	1g TXA bolus followed by 400mg/hr maintenance	Placebo
Wang, J 2016 <sup>202</sup>	Single center	Orthopaedic surgery	198	68/70	74/72	NA	1g TXA bolus	Placebo
Wang, Q 2013 <sup>203</sup>	Single center	Orthopaedic surgery	60	63/62	53/69	NA	15mg/kg TXA bolus	Placebo
Wang, W 2017 <sup>204</sup>	Single center	Orthopaedic surgery	80	41/43	46/47	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Watts, C 2017 <sup>205</sup>	Single center	Orthopaedic surgery	138	81/82	70/68	51/54	30mg/kg TXA bolus	Placebo
Wei 2006 <sup>206</sup>	Single center	Cardiac surgery	76	63/61	22/20	NA	0.75g TXA bolus followed by 250mg/hr maintenance	Placebo
Wong 2008 <sup>207</sup>	Multicenter	Orthopaedic surgery	147	57/50	29/35	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Wu 2006 <sup>208</sup>	Single center	Abdominal surgery	214	57/62	26/27	NA	0.5g TXA bolus followed by 250mg bolus every 6hr	Placebo
Xie 2015 <sup>209</sup>	Single center	Orthopaedic surgery	90	43/43	93/96	NA	15mg/kg TXA bolus	Placebo
Xu 2012 <sup>210</sup>	Single center	Orthopaedic surgery	40	19/20	40/65	NA	10mg/kg TXA bolus followed by 10mg/kg/hr maintenance	Placebo
Xu 2013 <sup>211</sup>	Single center	Obstetrics and gynecology	174	27/27	100/100	NA	10mg/kg TXA bolus	Placebo
Xu 2019 <sup>212</sup>	Single center	Orthopaedic surgery	135	63/63	53/48	NA	20mg/kg TXA bolus	Placebo
Yamasaki 2004 <sup>213</sup>	Single center	Orthopaedic surgery	40	56/61	5/10	NA	1g TXA bolus	No treatment
Yamasaki 2005 <sup>214</sup>	Single center	Orthopaedic surgery	42	NA	NA	NA	1g TXA bolus	No treatment
Yanartas 2015 <sup>215</sup>	Single center	Cardiac surgery	66	60/63	56/78	NA	20mg/kg TXA bolus	Placebo
Ye 2019 <sup>216</sup>	Single center	Orthopaedic surgery	200	65,65,66,65/ 64	NA	NA	10mg/kg TXA bolus/ 15mg/kg TXA bolus/	Placebo

							20mg/kg TXA bolus/ 30mg/kg TXA bolus	
Yen 2017 <sup>217</sup>	Single center	Orthopaedic surgery	65	69/70	80/87	NA	1g TXA bolus	placebo
Yi 2016 <sup>218</sup>	Single center	Orthopaedic surgery	100	54/57	52/42	NA	15mg/kg TXA bolus	Placebo
Yuan 2017 <sup>219</sup>	Single center	Orthopaedic surgery	280	64/65	56/54	NA	20mg/kg TXA bolus followed by 20mg/kg bolus	Placebo
Yutthakasemsunt 2013 <sup>220</sup>	Single center	Trauma	238	35/34	14/9	NA	1g TXA bolus followed by 1g infusion over 8hr	Placebo
Zabeeda 2002 <sup>221</sup>	Single center	Cardiac surgery	50	66/65	20/28	NA	10mg/kg TXA bolus followed by 1mg/kg/hr maintenance	Placebo
Zaman 2019 <sup>222</sup>	Single center	Otorhinolaryngology	176	NA	33/48	NA	10mg/kg TXA bolus	Placebo
Zekcer 2016 <sup>223</sup>	Single center	Orthopaedic surgery	60	NA	NA	NA	20mg/kg TXA bolus	Placebo
Zhang S 2021 <sup>224</sup>	Single center	Orthopaedic surgery	175	65,66/65	83,86/81	NA	20mg/kg TXA bolus/ 20mg/kg TXA bolus followed by 1g bolus at 3, 7, 12, 18, 24hr	Placebo
Zhang S 2020 <sup>225</sup>	Single center	Orthopaedic surgery	64	67/65	88/87	NA	20mg/kg TXA bolus followed by 1g bolus at 3, 7, 12, 18, 24hr	Placebo
Zhang S 2020 <sup>226</sup>	Single center	Orthopaedic surgery	122	79/76	54/44	NA	2g TXA bolus	Placebo
Zhang Y 2016 <sup>227</sup>	Single center	Orthopaedic surgery	50	45/43	44/54	NA	1g TXA bolus	No treatment
Zhang Y 2018 <sup>228</sup>	Single center	Cardiac surgery	210	59/58	21/18	NA	50mg/kg TXA bolus	Placebo
Zhao 2018 <sup>229</sup>	Single center	Orthopaedic surgery	80	60/60	57/50	NA	15mg/kg TXA bolus	Placebo

Zhou 2018 <sup>230</sup>	Single center	Orthopaedic surgery	116	63/65	79/75	NA	10mg/kg TXA bolus followed by 10mg/kg bolus	Placebo
Zhou 2019 <sup>231</sup>	Multicenter	Orthopaedic surgery	100	75/78	50/56	NA	1g TXA bolus	No treatment
Zhu 2020 <sup>232</sup>	Single center	Orthopaedic surgery	150	55,56/56	58,62/56	NA	15mg/kg TXA bolus/ 15mg/kg TXA bolus followed by 15mg/kg bolus	Placebo
Zohar 2004 <sup>233</sup>	Single center	Orthopaedic surgery	60	73,69/73	30,20/35	NA	15mg/kg TXA bolus followed by 10mg/kg/hr maintenance until 12hr after deflation / 15mg/kg TXA bolus followed by 10mg/kg/hr maintenance until 2hr after deflation	Placebo
Zufferey 2009 <sup>234</sup>	Single center	Orthopaedic surgery	110	81/82	47/49	18/21	15mg/kg TXA bolus	Placebo

TXA, tranexamic acid.

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