

S3 Table: Synthesis of findings

Outcome	Comparison	Effect Size	#studies, # participants	Reference
Suction				
Death or disability	Suction vs no first aid	Not statistically significant: 0/3 vs 1/15 § RR: 1.33, 95% CI [0.07; 26.98] * ¥ (p=0.85)	1, 3 vs 15	Michael, 2011
Amount of anti-venom required (mL) (median [IQR])	Suction vs no suction	Not statistically significant: 50 [0;60] vs 20 [20;30] £ (p=0.45)	1, 3 vs 69 §	
Duration of hospital stay (days) (median)		Not statistically significant: 6 vs 4 £ (p=0.70)	1, 3 vs 69 §	
Tourniquet				
Local swelling	Tourniquet vs no first aid	<u>Statistically significant:</u> 78/78 vs 86/148 § RR: 1.71, 95% CI, [1.49;1.96] * (p<0.00001) <i>If favor of no tourniquet</i>	1, 78 vs 148	Bhat, 1974
	Tourniquet with incision vs no first aid	<u>Statistically significant:</u> 71/71 vs 86/148 § RR: 1.71, 95% CI, [1.49;1.96] * (p<0.00001) <i>In favor of no tourniquet</i>	1, 71 vs 148	
Hemorrhagic syndrome	Tourniquet vs no first aid	Not statistically significant: 49/78 vs 98/148 § RR: 0.95, 95% CI, [0.77;1.17] * (p=0.62)	1, 78 vs 148	
	Tourniquet with incision vs no first aid	Not statistically significant: 46/71 vs 98/148 § RR: 0.98, 95% CI, [0.80;1.20] * (p=0.84)	1, 71 vs 148	
Amount of anti-venom required (ml)	Tourniquet vs no tourniquet	Not statistically significant: 139±56.4 vs 156.5±65.8 MD: -17.5, 95% CI [-41.82;6.82] * (p=0.16)	1, 45 vs 52 §	Amaral 1998
		<u>Statistically significant:</u> 20 [20;40] vs 20 [10;20] £ (median and IQR) (p=0.03) <i>In favor of no tourniquet use</i>	1, 53 vs 19 §	Michael, 2011
		Tourniquet vs no first aid <u>Statistically significant:</u> 24.52±13.6 vs 39.33±34.32 MD: -14.81 ££ (p<0.01) <i>In favor of tourniquet use</i>	1, 35 vs 19 §	Madaki, 2005
Acute renal failure	Tourniquet vs no tourniquet	Not statistically significant: 4/42 vs 4/52 § RR: 1.24, 95% CI [0.33;4.66] * ¥ (p=0.75)	1, 42 vs 52	Amaral 1998
Acute respiratory failure		Not statistically significant: 3/35 vs 3/49 § RR: 1.4, 95% CI [0.3;6.53] * ¥ (p=0.67)	1, 35 vs 49	
Death		Not statistically significant: 2/45 vs 3/52 § RR: 0.77, 95% CI [0.13;4.41] * ¥	1, 45 vs 52	

		(p=0.77)		
Local edema		Not statistically significant: 17/42 vs 21/51 § RR: 0.98, 95% CI [0.6;1.61] * ¥ (p=0.95)	1, 42 vs 51	
Envenoming	Tourniquet vs no first aid	Not statistically significant: 31/35 vs 16/19 § RR: 1.05, 95% CI [0.84;1.32] * ¥ (p=0.66)	1, 35 vs 19 §	Madaki, 2005
Duration of hospital stay (days)		Not statistically significant: 6±2.6 vs 6.3±3 MD: -0.3, 95% CI [-1.9;1.3] * ¥ (p=0.71)		
		Statistically significant: 4.6±2.0 vs 3.7±2.5 MD: 0.9 ££ (p=0.04) <i>In favor of no tourniquet</i>	1, 53 vs 15 §	Michael, 2011
Tissue necrosis	Tourniquet/ Tourniquet with incisions vs no first aid	Not statistically significant: 3/38 vs 1/19 § RR: 0.75, 95% CI [0.14;4.12] * ¥ (p=0.74)	1, 38 vs 19	Madaki, 2005
Death or disability	Tourniquet vs no tourniquet	Not statistically significant: 14/53 vs 1/15 § OR: 4.7, 95% CI [0.58;212] ¥ (p=0.16)	1, 53 vs 15	Michael, 2011
Serum venom level before antivenom treatment (ng/ml)		Not statistically significant: 77.85±74.82 vs 60.88±39.39 λ □ MD: 16.97, 95% CI [-20.79;54.73] * ¥ (p=0.38)	1, 20 vs 17 §	Khin Ohn Lwin, 1984
		Not statistically significant: 197.7±230.4 vs 283.5±406.6 MD: -85.8, 95% CI [-204.34;32.74] * (p=0.16)	1, 56 vs 61 §	França, 2003
Severity of local envenomation (mild vs moderate)		Statistically significant: aOR: 4.31, 95% CI, [1.33;13.89] (p=0.015) £££ <i>In favor of no tourniquet</i>		
Incidence of multiple organ dysfunction syndrome		Not statistically significant: 17/220 vs 3/72 § RR: 1.85, 95% CI [0.56;6.15] * ¥ (p=0.31)	1, 220 vs 72	Wang, 2014
Skin grafting required		Statistically significant: 44/220 vs 7/72 § RR: 2.06 ££ (p=0.046) <i>In favor of no tourniquet</i>		
Pressure immobilization				
<i>Efficacy</i>				
Time to reach 80% maximal blood counts of radioactivity (min)	Elastic bandage and splinting vs no treatment	Not statistically significant: 26±17.06 vs 26±3.61 □ MD: 0.0, 95% CI [-19.73;19.73] * ¥ (p=1.00)	1, 3 vs 3 §	Anker, 1982
	Pressure cloth vs no treatment	Statistically significant: 74.3±3.79 vs 26±3.61 □ MD: 48.3, 95% CI [42.38;54.22] * (p<0.00001) <i>In favor of pressure cloth</i>		

	Treatment with rubber pressure pad and splinting vs no treatment	<p>Statistically significant: 66.07±9.71 vs 42.38±5.01 ¢ MD: 23.69, 95% CI [17.53;29.85] * (p<0.00001) <i>In favor of rubber pressure pad and splinting</i></p>	1, 14 vs 8 §	Tun Pe, 1994
Amount of radioactivity in blood sample (% of maximal radioactivity in blood after 60 min)	Elastic bandage and splinting vs no treatment	<p>Not statistically significant: 40.67±4.51 vs 46.33±16.17 ¢ MD: -5.66, 95% CI [-24.66;13.34] * ¥ (p=0.56)</p>	1, 3 vs 3 §	Anker, 1983
	Pressure cloth vs no treatment	<p>Statistically significant: 4.67±3.25 vs 46.33±16.17 ¢ MD: -41.66, 95% CI [-60.32;-23.0] * (p<0.0001) <i>In favor of pressure cloth</i></p>		
Transit of tracer	rest vs while walking	<p>Lower limbs: Statistically significant: 4/13 vs 9/9 § RR: 0.34, 95% CI [0.16;0.73] * (p=0.006) <i>In favor of rest</i></p>	1, 13 vs 9 (within subjects)	Howarth, 1994
		<p>Upper limbs: Statistically significant: 7/13 vs 6/6 § RR: 0.58, 95% CI [0.34;0.98] * (p=0.04) <i>In favor of rest</i></p>	1, 13 vs 6 (within subjects)	
Feasibility				
Tension generated within appropriate range	Training vs no training	<p>Statistically significant: 18/36 vs 5/36 § OR: 6.20 ££ (p=0.002) <i>In favor of training</i></p>	1, 36 vs 36 (within subjects design)	Canale, 2009
Correct application of pressure immobilization technique	Lay people vs healthcare worker	<p>Not statistically significant: 5/100 vs 13/100 § RR: 0.38, 95% CI [0.14;1.04] * ¥ (p=0.06)</p>	1, 100 vs 100	Norris, 2005
Correct bandage pressure applied		<p>Not statistically significant: 14/100 vs 17/100 § RR: 0.82, 95% CI [0.43; 1.58] * ¥ (p=0.56)</p>		
Pressure applied with bandage (mmHg)	Intense training vs written instructions	<p>Statistically significant: 57.7±17.0 vs 10.5±11.0 MD: 47.2, 95% CI [38.33;56.07] * (p<0.00001) <i>In favor of intense training</i></p>	1, 20 vs 20 §	Simpson, 2008
Tension within the correct range (55-70 mmHg)		<p>Statistically significant: 12/20 vs 0/20 § RR: 25.0, 95% CI [1.58;395.48] * (p=0.02) <i>In favor of intense training</i></p>		
		<p>3 days after intense training vs 1h after intense training Statistically significant: 5/20 (25%) vs 12/20 (60%) § 95% CI [6;44%] (p<0.001) <i>In favor of 1h after training</i></p>		
Use of Concoctions/Traditional medicine				
Envenoming	Traditional medicine (with or	<p>Not statistically significant: 34/40 vs 16/19 §</p>	1, 40 vs 19	Madaki, 2005

	without other first aid measures) vs no first aid	RR: 1.01, 95% CI [0.8;1.28] * ¥ (p=0.94)		
Amount of anti-venom required (mL)	Traditional medicine with tourniquet vs no first aid	<u>Statistically significant:</u> 27.5±23.63 vs 39.33±34.32 MD: -11.83 ££ (p<0.01) <i>In favor of traditional medicine</i>	1, 17 vs 19 §	
	Concoction applied vs no concoction applied	Not statistically significant: 30.0 [20;50] vs 20.0 [10;30] £ (median [IQR]) (p=0.07)	1, 15 vs 57 §	Michael, 2011
	Concoction ingested vs no concoction ingested	Not statistically significant: 30.0 [20;30] vs 20.0 [10;40] £ (median [IQR]) (p=0.13)	1, 10 vs 62 §	
Duration of hospital stay (days)	Traditional medicine (with or without other first aid measures) vs no first aid	Not statistically significant: 6.9±2.6 vs 6.3±3.0 MD: 0.6, 95% CI [-1.23;2.43] * (p=0.52)	1, 40 vs 19	Madaki, 2005
	Concoction applied vs no concoction	Not statistically significant: 5 vs 4 (median) £ (p=0.60)	1, 15 vs 57 §	Michael, 2011
	Concoction ingested vs no concoction ingested	Not statistically significant: 4 vs 4 (median) £ (p=0.84)	1, 10 vs 62 §	
Death/disability	Concoction applied vs no first aid	<u>Statistically significant:</u> 8/15 vs 1/15 § OR: 15, 95% CI [1.4;708] ¥ (p=0.01) <i>In favor of no first aid</i>	1, 15 vs 15	
	Concoction ingested vs no first aid	<u>Statistically significant:</u> 6/10 vs 1/15 § OR: 20, 95% CI [1.4;963] ¥ (p=0.009) <i>In favor of no first aid</i>	1, 10 vs 15	
Snake stone				
Envenoming	Snake stone vs no first aid	Not statistically significant: 9/11 vs 16/19 § RR: 0.97, 95% CI [0.69;1.36] * ¥ (p=0.87)	1, 11 vs 19	Madaki, 2005
Amount of anti-venom required (mL)		<u>Statistically significant:</u> 28.75±20.31 vs 39.33±34.32 MD: -10.58 ££† (p<0.05) <i>In favor of snake stone</i>		
	Snake stone vs no snake stone	Not statistically significant: 30.0 [15;35] vs 20.0 [15;35] £ (median [IQR]) (p=0.71)	1, 4 vs 68 §	Michael, 2011
Duration of hospital stay (days)	Snake stone vs no first aid	Not statistically significant: 6.1±3.3 vs 6.3±3 MD: -0.2, 95% CI [-2.57;2.17] * (p=0.87)	1, 11 vs 19	Madaki, 2005
	Snake stone vs no snake stone	Not statistically significant: 2.5 vs 4 (median) £ (p=0.09)	1, 4 vs 68 §	Michael, 2011

Death/disability	Snake stone vs no first aid	Not statistically significant: 2/4 vs 1/15 § OR: 13, 95%CI [0.39;823] (p=0.11)	1, 4 vs 15	
Incision				
Local swelling	Incision vs no first aid	Statistically significant: 13/13 vs 86/148 § RR: 1.66, 95%CI, [1.40;1.97] * (P<0.00001) <i>With harm for incision</i>	1, 13 vs 148	Bhat, 1974
Hemorrhagic syndrome		Not statistically significant: 9/13 vs 98/148 § RR: 1.05, 95%CI, [0.71;1.53] * ¥ (p=0.82)		
Death/disability		Not statistically significant: 2/8 vs 1/15 § OR: 4.3, 95%CI [0.18;275] ¥ (p=0.53)	1, 8 vs 15	Michael, 2011
Amount of anti-venom required (mL) (median [IQR])	Incision vs no incision	Not statistically significant: 25.0 [0;35] vs 20.0 [20;35] £ (p=0.71)	1, 8 vs 64 §	
Duration of hospital stay (days)		Statistically significant: 2.9±1.6 vs 4.6±2.2 MD: -1.70 (p=0.03) ££ <i>In favor of incision</i>		

MD = mean difference, SD = standard deviation, CI = confidence interval, IQR = interquartile range, RR = risk ratio, OR = odds ratio, aOR = adjusted odds ratio.

Mean ± SD (unless otherwise indicated)

* Calculations done by the reviewer(s) using Review Manager software

£ No effect size and CI available, imprecision due to variability of the results could not be verified

££ CI could not be calculated, imprecision due to variability of the results could not be verified

£££ No raw data available

¥ Imprecision (large variability of results)

§ Imprecision (limited sample size or low number of events)

λ data extracted from graph

α Mean and SD for each group calculated from subject data in Microsoft Excel