

Anatomical and physiological analysis of cord knotting a doglead.

(in normal position)

Joints used : all fingerjoints, both wrists, both elbows and both shoulders.

<u>JOINT</u>	<u>ACTION</u>	<u>MUSCLES</u>	<u>NERVES</u>
1.) A ^{Small ball is held in each closed hand} winded up cord is kept in each hand by making a fist			
all finger-joints	flexion	Flexor sublimis digit. " profundus "	Median " and Ulnar
2.) The cord coming out of each fist is kept by pressing the terminal phalange of thumb against the terminal phalange of second and third finger :			
interphalangeal joint of thumb, second and third finger	flexion	Flexor pollicis, " profundus digit. Musc. adductor pollicis " opponens "	Median " and Ulnar Ulnar Median

Each knot is made differently according to the method used for making the knot by a combination and sequence of movements e.g.

3.) both arms were adducted :

shoulder	adduction	Musc, coraco-brachialis	Musculo-cutan.
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4.) both forearms were flexed :

elbow	flexion	Brachialis anticus	Musculo-cutan. Musculo-spiral.
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5.) both wrists were flexed :

wrist	flexion	Flex. carpi radial. " sublimis digit. " profundus " " longus pollicis	Median Median Median and Ulnar. Median
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6.) ^{first} one forearm is supinated :

elbow	supination	Biceps Supinatus brevis Supinator longus	Musculo-cutan. Musculo-spiral Musculo-spiral
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7.) ^{the other} ~~one~~ forearm is pronated :

elbow	pronation	Pronator quadratus " radii teres	Median Median
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8.) all fingerjoints were extended :

all finger-joints	extension	Extensor communis digit.	Musculo-spiral
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9.) the hand in pronation ^{ball} drops it's ~~winded up cord~~ into the supinated hand and grips the other ^{ball} ~~winded up cord~~ :

all finger-joints	flexion	Flexor sublimis digit. " profundus " " pollicis longus	Median Median and Ulnar Median
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10.) both arms were externally rotated and ~~ab~~ adducted :

shoulder	rotation abduction	Infraspinatus Deltoid Supraspinatus	Brachial Plexus Circumflex Brachial Plexus
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11.) both wrists were extended

wrist	extension	Extensor communis digit. Extensor carpi radial. long. " Extensor carpi radial. brev. " Extensor carpi ulnaris	Musculo-spiral " " "
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12.) if the cord is kept long both elbows were extended :

elbow	extension	Triceps	Musculo-spiral
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Then the proceeding starts from the beginning again.