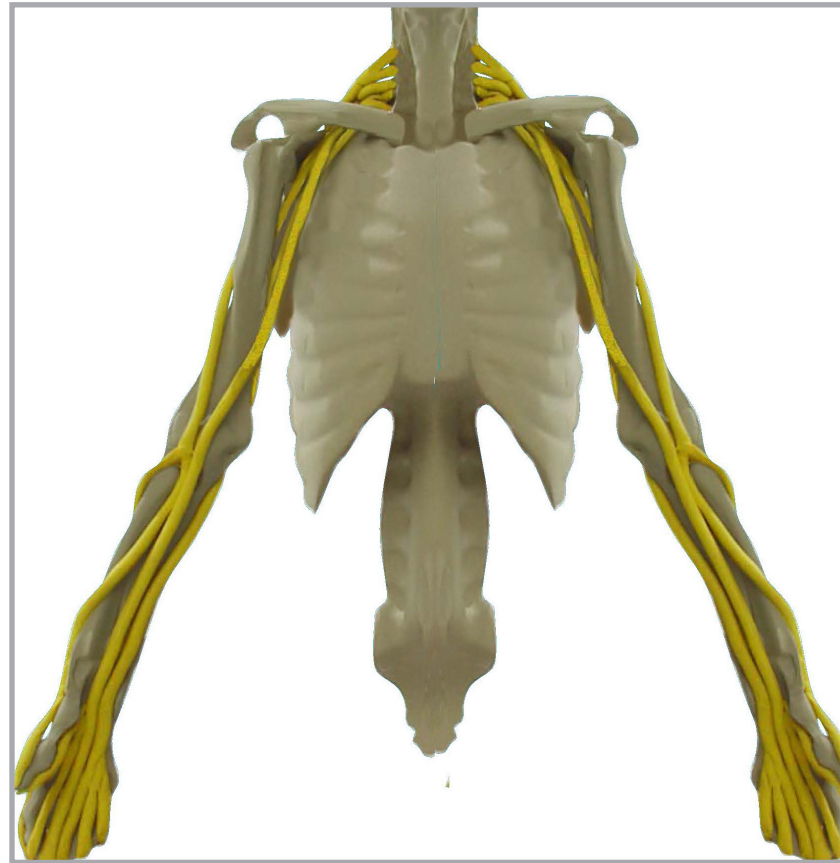


An **Anatomy in Clay®** Workbook  
*Major Nerves of the  
Human Pectoral System*



*The StepByStep™ Series*  
Learning Activities

## ***Table of Contents***

<b>1</b> Ulnar n....	<b>16</b> ...Radial n. deep branch
<b>2</b> ...Ulnar n....	<b>17</b> Radial n. Summary
<b>3</b> ...Ulnar n....	<b>18</b> Median n.....
<b>4</b> ...Ulnar n....	<b>19</b> ...Median n.....
<b>5</b> ...Ulnar n....	<b>20</b> ...Median n.....
<b>6</b> ...Ulnar n.	<b>21</b> ...Median n.....
<b>7</b> Ulnar n. Summary	<b>22</b> ...Median n.....
<b>8</b> Radial n....	<b>23</b> ...Median n.
<b>9</b> ...Radial n....	<b>24</b> Carpal tunnel...
<b>10</b> ...Radial n....	<b>25</b> ...Carpal tunnel...
<b>11</b> ...Radial n....	<b>26</b> ...Carpal tunnel
<b>12</b> ...Radial n.	<b>27</b> Median n. Summary
<b>13</b> Radial n. superficial branch...	<b>28</b> Ventral (Anterior) Summary
<b>14</b> ...Radial n. superficial branch	<b>29</b> Dorsal (Posterior) Summary
<b>15</b> Radial n. deep branch...	<b>30</b> DorsoVentral Summary

## Names of Nerves

Nerves leave (or join) the spinal cord by a nerve root through gaps between two adjacent vertebrae called “neural foramen.” Each nerve leaves the cord to become “peripheral” nerves. Each segmental peripheral nerve then divides into dorsal and ventral branches. In this booklet, we map out the peripheral nerves that supply the arm.

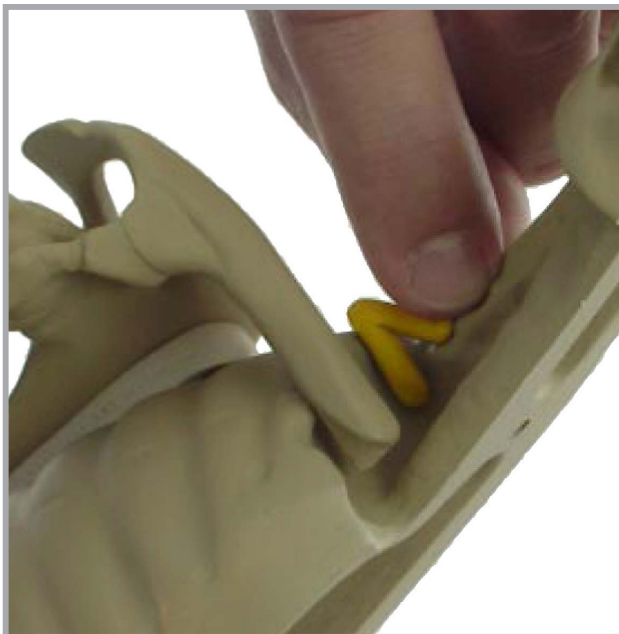
Originally, vertebrates evolved as axial vertebrae linked into head, thorax, and tail along a spinal column. Immediately caudal—toward the tail—of each vertebra, paired left and right nerve roots branched off a central spinal cord to serve each segment’s muscles and bones. Jaw structures eventually evolved from gill arches, mostly served by “cranial” nerves exiting the top of the spinal cord—the brain stem usually through the base of the skull. Even early jawed vertebrates lacked paired appendages of arms and legs. Once the more cranial pectoral and more pelvic appendages evolved, their muscles had to communicate and coordinate through a neural harness, but the segmental nerve roots were “spoken for.”

That meant that fibers from some segmental nerves, though devoted to their other axial duties, had to be shared with the limbs. The ventral roots alone supply both sets of appendages, but divide into both dorsal and ventral parts—of the ventral only—nerve roots. Built upon these roots, a metaphor developed that takes the names of parts of a tree:

Roots merging into Trunks.  
Trunks dividing into Divisions.  
Divisions branching into Cords and  
Cords branching into Branches.

Beyond those branches, small extensions of the branches are sometimes called Twigs.





# 1 *Ulnar nerve*

Make a "V" from yellow clay. It will represent the two lowest nerve roots and trunks of the brachial plexus. Place the ends at C7 & T1.



# 2 *Ulnar nerve*

To the angle of the V, add a single tube of yellow clay that slips under the clavicle through the axillary space.



### 3 *Ulnar nerve*

This is the *ulnar nerve*. Run it down the arm and pass dorsally behind the medial epicondyle.



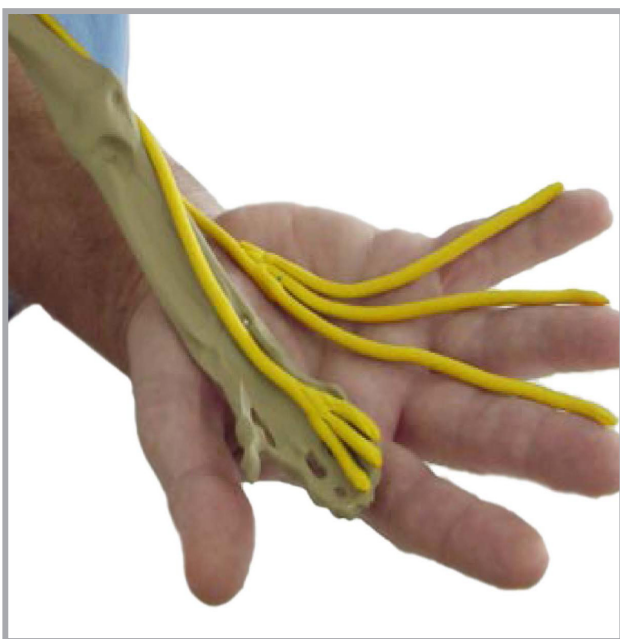
### 4 *Ulnar nerve*

The *ulnar n.* wraps around the medial epicondyle & ..... spirals around the ulna into the ventral forearm to the end of the medial middle finger.



## 5 *Ulnar nerve*

Make two more diagrammatic branches to the ring finger and little finger.



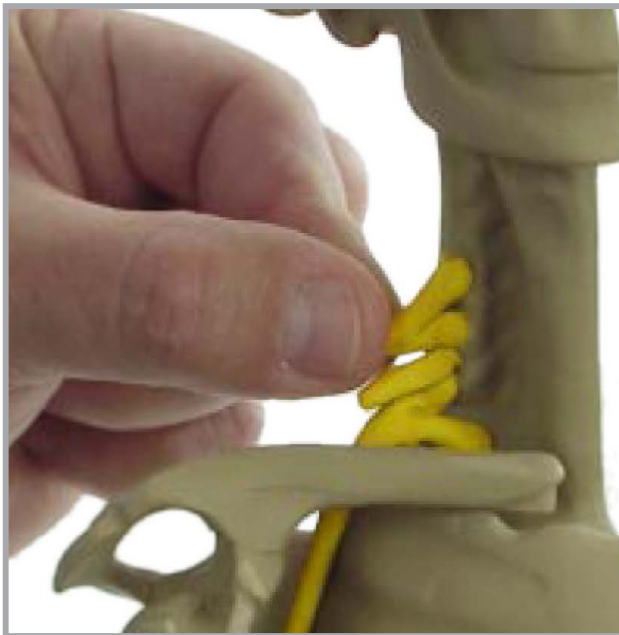
## 6 *Ulnar nerve*

Embody this on your own self. Lay the hand in your own hand.



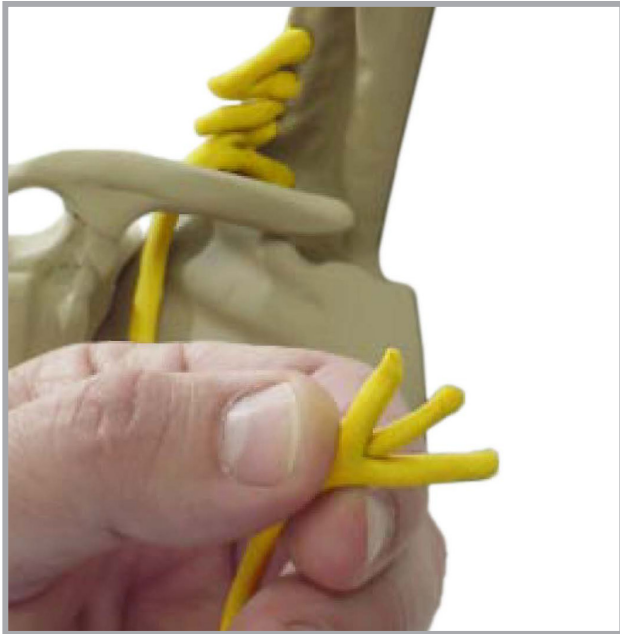


## 7 *Ulnar nerve*



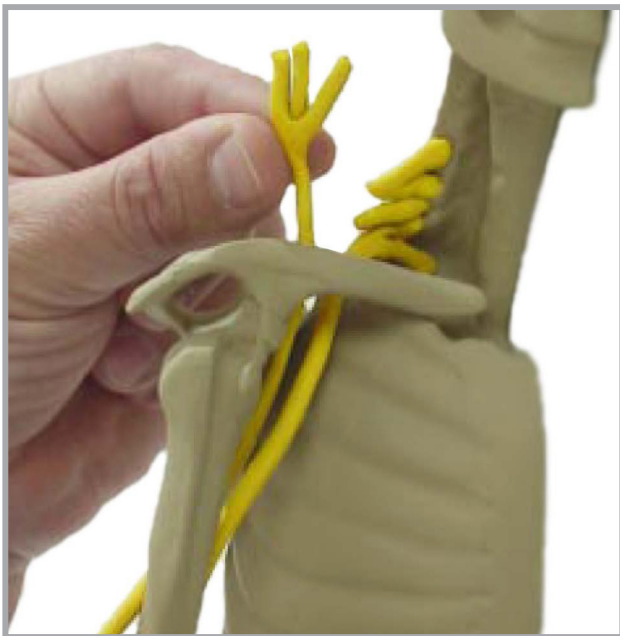
## 8 *Radial nerve*

Above the lower nerve trunks, add another V at C4 & C5. Then a single trunk between them at C6.



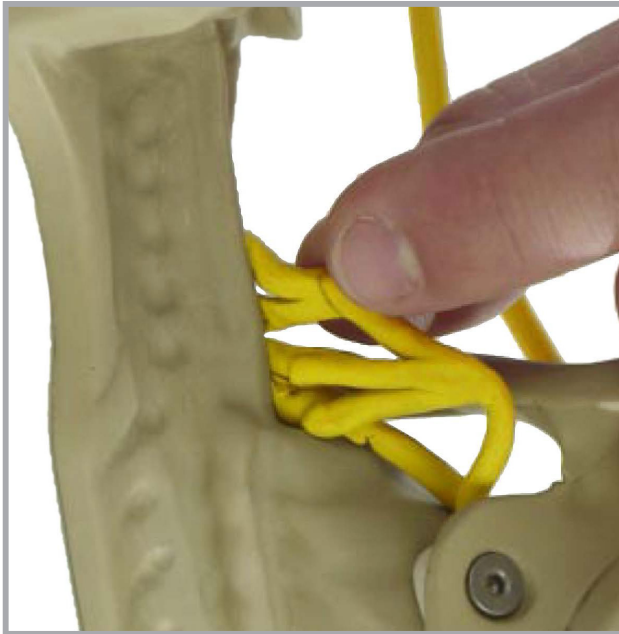
## 9 *Radial nerve*

Add a V to a long yellow strand to make a trident.



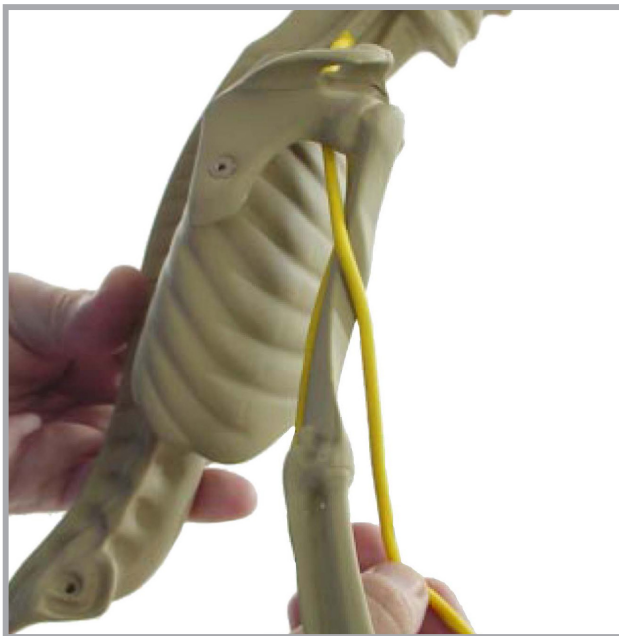
## 10 *Radial nerve*





# 11 *Radial nerve*

Press the top tine of the fork onto the angle of the top V; the middle tine on the single intermediate trunk, and the bottom tine to the angle of the bottom trunks.



# 12 *Radial nerve*

Spiral the length of the cord around the humerus lying in a radial groove — the furrow below the deltoid tuberosity.



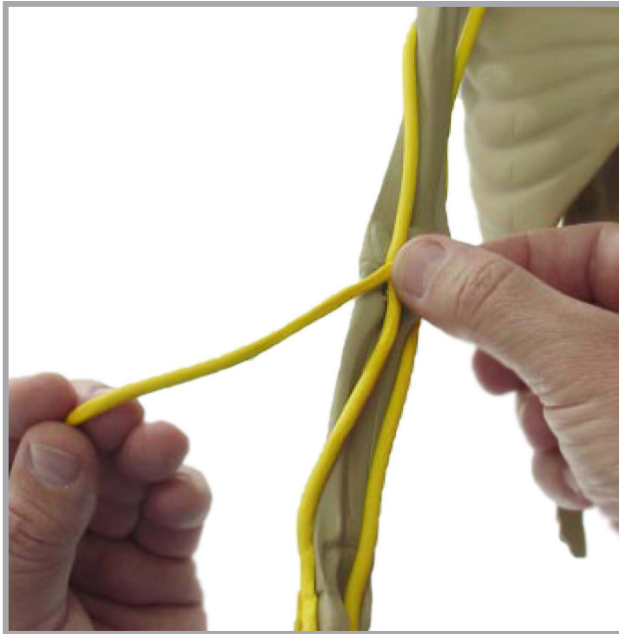
## 13 *Radial nerve superficial branch*

Wrap into the lateral cubital fossa of the ventral elbow. Continue down the arm, spiraling back over the distal radius to the dorsal hand.



## 14 *Radial nerve superficial branch*

Near the distal end of the radius, it spirals back dorsally to supply the dorsal fingers. Make diagrammatic branches to each of the dorsal digits.



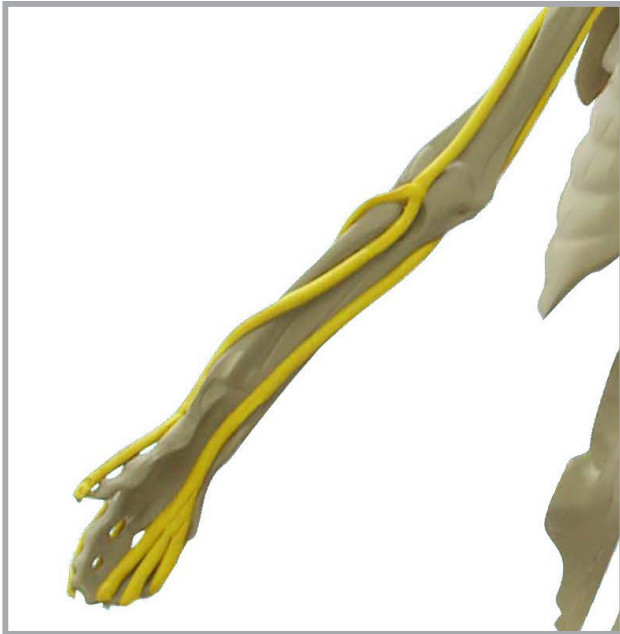
## 15 *Radial nerve deep branch*

Add a second terminal branch — the deep radial terminal branch — at the radial head.



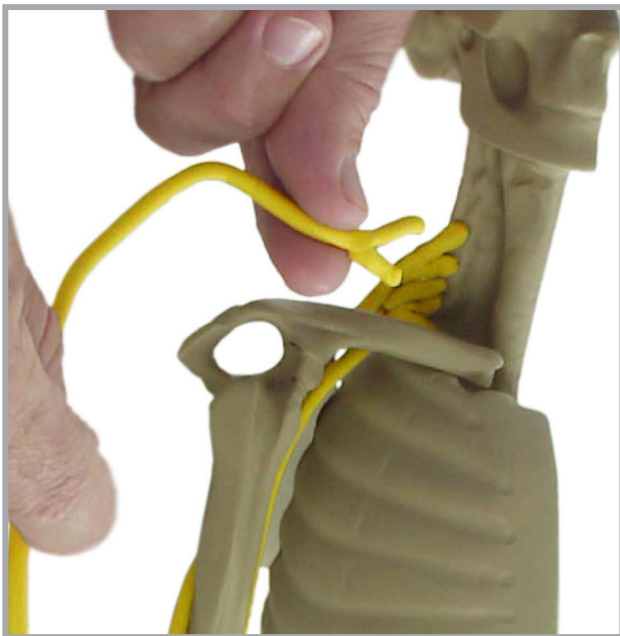
## 16 *Radial nerve deep branch*

Spiral it down the neck of the radius to the dorsal interosseus membrane. Terminate it at the carpal joint capsule.



# 17

*Radial nerve*



# 18

*Median nerve*

Add a V to another strand of yellow clay.



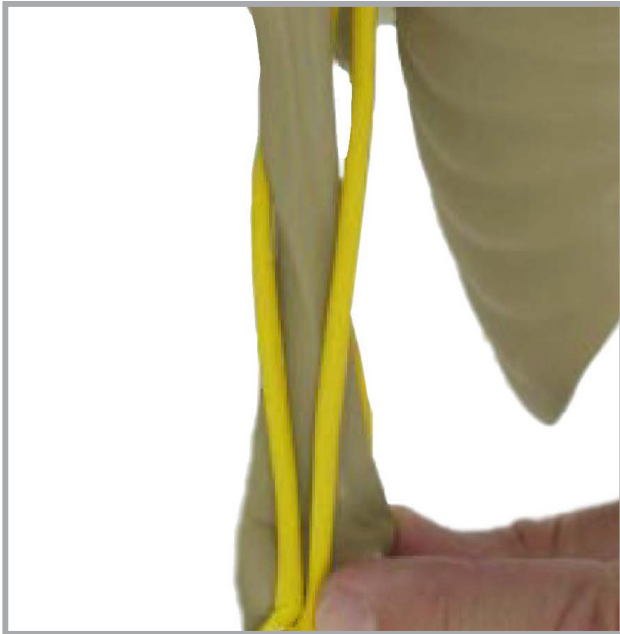
## 19 *Median nerve*

Slip the strand through the axillary space under the clavicle.



## 20 *Median nerve*

Press the legs of the V to the lower set of trunks of brachial plexus.



## 21 *Median nerve*

Trace the strand across the brachial space to the center of the cubital fossa.



## 22 *Median nerve*





## 23 *Median nerve*

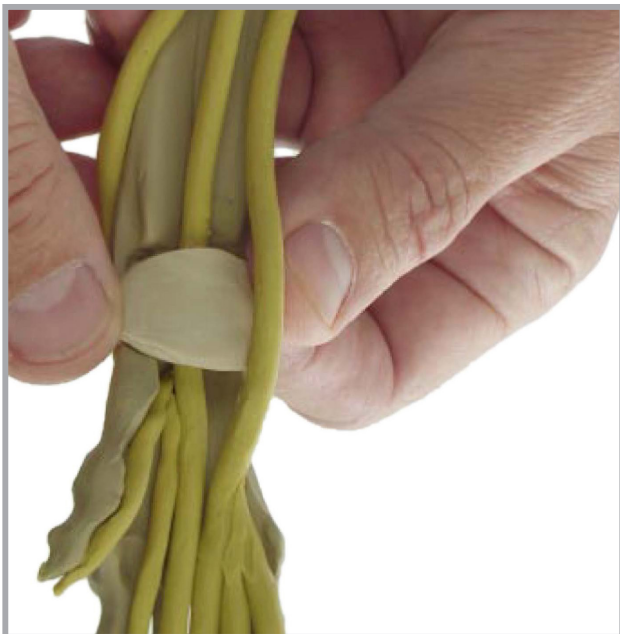
Diagram branches to the index finger and thumb.



## 24 *Carpal tunnel*

The *median* and *ulnar* nerves are parallel in the wrist, but they pass through it on different levels.

Lift the *ulnar* nerve at the wrist.



## 25 *Carpal tunnel*

Upon passing through the hiatus from ventral to dorsal forearm, the *posterior interosseus a.* lies along the dorsal median, down the interosseus membrane.



## 26 *Carpal tunnel*

Press it along the length of the interosseus membrane to the radio-carpal joint...



# 27

## *Median Nerve Summary*



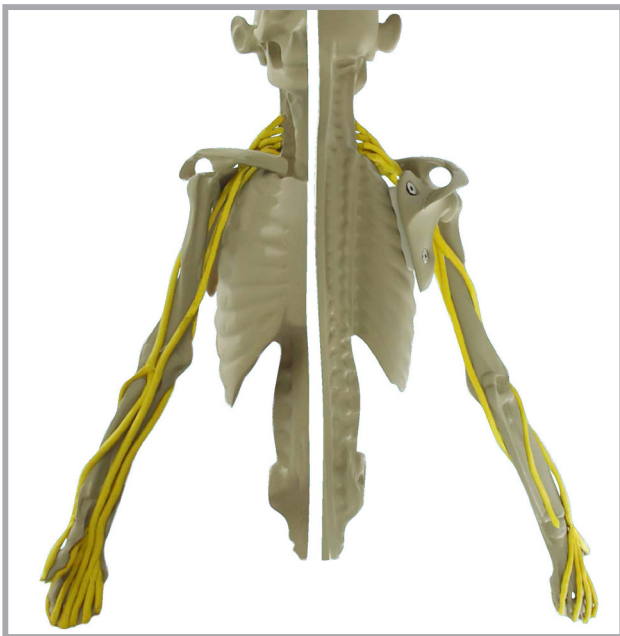
# 28

## *Ventral (Anterior) Major Pectoral Nerves*



# 29

*Dorsal (Posterior) Major  
Pectoral Nerves*



# 30

*DorsoVentral Major  
Pectoral Nerves*