Skill:

Tricep Dip

Description:

The Tricep dip is a common exercise used for athletes who want to work on strengthening their Tricep muscles, or to aid in a specific movement of a sport. This exercise can be conducive to gymnasts, wrestlers, weightlifters, swimmers and a variety of other sports. Any sport that utilizes the Tricep as a prime muscle can use these dips to increase strength. Tricep dips can be done from in a variety of ways, ranging from beginning to advanced ability levels. They can be done hanging from parallel bars, with the legs elevated on an object, in a pike position or a tuck position. In all scenarios, the athlete should lower themselves to a 90 degree angle at the elbow and then fully extend back up. The type of dip I chose was starting with straight arms, holding onto a mat or chair and the knee bent to 90 degrees. The person will lower themselves into a 90 degree angle at the elbow, and conversely the knees will bend to allow this motion. Once at this point, the participant will extend the arms back up, and their knees will extend as well. Both sides of the body go through the same movements simultaneously.

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| **Starting Position**  **(right and left are the same)** | **Joint** | **Position (Apx. Degrees)** | **Muscles Used** |
| **Neck** | No joint motion | Full extension, isometric contractions of the muscles hold the head in place. | Splenius Capitis, Splenius Cervicis, Obliquus capitis, Obliquus capitis inferior, Rectus capitis posterior minor, Rectus capitis posterior major |
| **Shoulder** | Scapula | Retraction of scapula | Middle Trapezius, Rhomboids |
| **Trunk/Back** | No joint motion | All vertebra are aligned | Erector Spinae,  Transversospinalis, Interspinales |
| **Elbow** | Elbow joint | Full Extension | Triceps, Anconeus assists in elbow extension |
| **Wrist** | Radiocarpal joint  Midcarpal joint  Carpometacarpal joint | Extension/Hyperextension (100 degrees)  MC and CMC glide (non-axial), assists with Radiocarpal motion | Extensor carpi radialis longus, extensor carpi radialis brevis, extensor carpi ulnaris |
| **Phalanges/Hand** | MCP joints  PIP joints  DIP joints  IP joint | Flexion (90 degrees)  Flexion (30 degrees)  Flexion (45 degrees)  Flexion (90 degrees) | Flexor digitorum superficialis, flexor digitorum profundus, flexor pollicis longus, flexor pollicis brevis, flexor digiti minimi |
| **Hip** | Hip joint | Extension (90 degrees) | Gluteus maximus, Semimembranosus, Semitendinosus, Biceps femoris |
| **Knee** | Knee joint | Extension (80 degrees) | Rectus femoris, Vastus lateralis, Vastus medialis, Vastus intermedialis |
| **Ankle** | Talocrural joint | Dorsiflexion (80 degrees) | Tibialis anterior, extensor hallucis longus, extensor digitorum longus, peroneus tertius |
| **Foot** | MTP joints  PIP joints  DIP joints  IP joint | Full extension (neutral)  Full extension (neutral)  Full extension (neutral)  Full extension (neutral) | Extensor hallucis longus, Extensor digitorum longus |

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| **Picture 1- Picture 2**  **(right and left are the same)** | **Joint** | **Position (Apx. Degrees)** | **Muscles used** |
| **Neck** | No joint motion | Full extension, isometric contraction of muscles holds the head in position. | Splenius Capitis, Splenius Cervicis, Obliquus capitis, Obliquus capitis inferior, Rectus capitis posterior minor, Rectus capitis posterior major |
| **Shoulder** | Shoulder joint  Scapula | Medial rotation (45 degrees)  Scapular Retraction | Anterior Deltoid,  Pectoralis Major (Clavicular and Sternal Portions),  Latissimus Dorsi,  Teres Major, Subscapularis, Middle Trapezius, Rhomboids |
| **Trunk and Back** | L1-S5 | Flexion (5 degrees) | Rectus Abdominis, Internal Oblique, External Oblique |
| **Elbow** | Elbow joint | Flexion (45 degrees) | Brachialis, Biceps Brachii, Brachioradialis, Pronator Teres assists in elbow flexion |
| **Wrist** | Radiocarpal joint  Midcarpal joint  Carpometacarpal joint | Extension/Hyperextension (90 degrees)  MC and CMC glide (non-axial), assists with Radiocarpal motion | Extensor carpi radialis longus, extensor carpi radialis brevis, extensor carpi ulnaris |
| **Phalanges/Hand** | MCP joints  PIP joints  DIP joints  IP joint | Flexion (90 degrees)  Flexion (30 degrees)  Flexion (45 degrees)  Flexion (90 degrees) | Flexor digitorum superficialis, flexor digitorum profundus, flexor pollicus longus, flexor pollicis brevis, flexor digiti minimi |
| **Hip** | Hip joint | Flexion (100 degrees) | Iliopsoas, Rectus femoris, Sartorius, Pectineus |
| **Knee** | Knee joint | Flexion (90 degrees) | Semimembranosus, Semitendinosus, Biceps femoris, Popliteus, Gastrocnemius |
| **Ankle** | Talocrural joint | Dorsiflexion (90 degrees) | Tibialis anterior, extensor hallucis longus, extensor digitorum longus, peroneus tertius |
| **Foot** | MTP joints  PIP joints  DIP joints  IP joint | Full extension (neutral)  Full extension (neutral)  Full extension (neutral)  Full extension (neutral) | Extensor hallucis longus, Extensor digitorum longus |

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| **Picture 2- Picture 3**  **(right and left are the same)** | **Joint** | **Position (Apx. Degrees)** | **Muscles Used** |
| **Neck** | No joint motion | Full extension, isometric contractions hold the head in position | Splenius Capitis, Splenius Cervicis, Obliquus capitis, Obliquus capitis inferior, Rectus capitis posterior minor, Rectus capitis posterior major |
| **Shoulder** | Shoulder joint  Scapula | Medial rotation (90 degrees)  Scapular Retraction | Anterior Deltoid,  Pectoralis Major (Clavicular and Sternal Portions),  Latissimus Dorsi,  Teres Major, Subscapularis, Middle Trapezius, Rhomboids |
| **Trunk/Back** | L1-S5 | Flexion (7 degrees) | Rectus Abdominis, Internal Oblique, External Oblique |
| **Elbow** | Elbow joint | Flexion (90 degrees) | Brachialis, Biceps Brachii, Brachioradialis, Pronator Teres assists in elbow flexion |
| **Wrist** | Radiocarpal joint  Midcarpal joint  Carpometacarpal joint | Extension/Hyperextension (90 degrees)  MC and CMC glide (non-axial), assists with Radiocarpal motion | Extensor carpi radialis longus, extensor carpi radialis brevis, extensor carpi ulnaris |
| **Phalanges/Hand** | MCP joints  PIP joints  DIP joints  IP joint | Flexion (90 degrees)  Flexion (30 degrees)  Flexion (45 degrees)  Flexion (90 degrees) | Flexor digitorum superficialis, flexor digitorum profundus, flexor pollicus longus, flexor pollicis brevis, flexor digiti minimi |
| **Hip** | Hip joint | Flexion (130 degrees) | Iliopsoas, Rectus femoris, Sartorius, Pectineus |
| **Knee** | Knee joint | Flexion (120 degrees) | Semimembranosus, Semitendinosus, Biceps femoris, Popliteus, Gastrocnemius |
| **Ankle** | Talocrural joint | Dorsiflexion (95 degrees) | Tibialis anterior, extensor hallucis longus, extensor digitorum longus, peroneus tertius |
| **Foot** | MTP joints  PIP joints  DIP joints  IP joint | Full extension (neutral)  Full extension (neutral)  Full extension (neutral)  Full extension (neutral) | Extensor hallucis longus, Extensor digitorum longus |

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| **Picture 3- Picture 4**  **(right and left are the same)** | **Joint** | **Position (Apx. Degrees)** | **Muscles Used** |
| **Neck** | No joint motion | Full extension, isometric contractions of the muscles hold the head in place. | Splenius Capitis, Splenius Cervicis, Obliquus capitis, Obliquus capitis inferior, Rectus capitis posterior minor, Rectus capitis posterior major |
| **Shoulder** | Shoulder joint  Scapula | Lateral rotation (45 degrees)  Retraction of scapula | Middle Trapezius, Rhomboids, Posterior Deltoid, Infraspinatus, Teres minor |
| **Trunk/Back** | L1-S5 | Extension (7 degrees) | Erector Spinae,  Transversospinalis, Interspinales |
| **Elbow** | Elbow joint | Extension (45 degrees) | Triceps, Anconeus assists in elbow extension |
| **Wrist** | Radiocarpal joint  Midcarpal joint  Carpometacarpal joint | Extension/Hyperextension (90 degrees)  MC and CMC glide (non-axial), assists with Radiocarpal motion | Extensor carpi radialis longus, extensor carpi radialis brevis, extensor carpi ulnaris |
| **Phalanges/Hand** | MCP joints  PIP joints  DIP joints  IP joint | Flexion (90 degrees)  Flexion (30 degrees)  Flexion (45 degrees)  Flexion (90 degrees) | Flexor digitorum superficialis, flexor digitorum profundus, flexor pollicus longus, flexor pollicis brevis, flexor digiti minimi |
| **Hip** | Hip joint | Extension (100 degrees) | Gluteus maximus, Semimembranosus, Semitendinosus, Biceps femoris |
| **Knee** | Knee joint | Extension (90 degrees) | Rectus femoris, Vastus lateralis, Vastus medialis, Vastus intermedialis |
| **Ankle** | Talocrural joint | Dorsiflexion (90 degrees) | Tibialis anterior, extensor hallucis longus, extensor digitorum longus, peroneus tertius |
| **Foot** | MTP joints  PIP joints  DIP joints  IP joint | Full extension (neutral)  Full extension (neutral)  Full extension (neutral)  Full extension (neutral) | Extensor hallucis longus, Extensor digitorum longus |

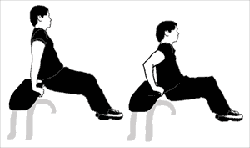
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| **Picture 4- Picture 5**  **(right and left are the same)** | **Joint** | **Position (Apx. Degrees)** | **Muscles Used** |
| **Neck** | No joint motion | Full extension, isometric contractions of the muscles hold the head in place. | Splenius Capitis, Splenius Cervicis, Obliquus capitis, Obliquus capitis inferior, Rectus capitis posterior minor, Rectus capitis posterior major |
| **Shoulder** | Shoulder joint  Scapula | Lateral rotation (90 degrees)  Retraction of scapula | Middle Trapezius, Rhomboids, Posterior Deltoid, Infraspinatus, Teres minor |
| **Trunk/Back** | L1-S5 | Extension (5 degrees) | Erector Spinae,  Transversospinalis, Interspinales |
| **Elbow** | Elbow joint | Full Extension | Triceps, Anconeus assists in elbow extension |
| **Wrist** | Radiocarpal joint  Midcarpal joint  Carpometacarpal joint | Extension/Hyperextension (100 degrees)  MC and CMC glide (non-axial), assists with Radiocarpal motion | Extensor carpi radialis longus, extensor carpi radialis brevis, extensor carpi ulnaris |
| **Phalanges/Hand** | MCP joints  PIP joints  DIP joints  IP joint | Flexion (90 degrees)  Flexion (30 degrees)  Flexion (45 degrees)  Flexion (90 degrees) | Flexor digitorum superficialis, flexor digitorum profundus, flexor pollicus longus, flexor pollicis brevis, flexor digiti minimi |
| **Hip** | Hip joint | Extension (90 degrees) | Gluteus maximus, Semimembranosus, Semitendinosus, Biceps femoris |
| **Knee** | Knee joint | Extension (80 degrees) | Rectus femoris, Vastus lateralis, Vastus medialis, Vastus intermedialis |
| **Ankle** | Talocrural joint | Dorsiflexion (80 degrees) | Tibialis anterior, extensor hallucis longus, extensor digitorum longus, peroneus tertius |
| **Foot** | MTP joints  PIP joints  DIP joints  IP joint | Full extension (neutral)  Full extension (neutral)  Full extension (neutral)  Full extension (neutral) | Extensor hallucis longus, Extensor digitorum longus |

Kinesiologic Analysis of the Tricep Dip

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Works Cited

Lippert, Lynn S. *Clinical Kinesiology and Anatomy*. 4th ed. Philadelphia: F.A. Davis Company, 2006. N. pag. Print.