**Geometric Analysis of Muscle Function**

How much force does your triceps lever system generate?

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| Variable | | Measured Value | Sample Value |
| C | Circumference of upper arm |  | 12.25” |
| L | Length of upper arm from elbow to shoulder |  | 14” |
| W | Width of tip of elbow |  | 1” |
| Li | In-lever length (center to tip of elbow) |  | 1” |
| Lo | Out-lever length (center of elbow to wrist) |  | 11” |

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| Variable | | Calculated Value | Sample Value |
| Rt | Triceps radius |  | 0.975 in |
| L ÷ 2 | Length of upper arm from elbow to shoulder divided by two |  | 7 in |
| W ÷ 2 | Width of tip of elbow divided by two |  | 0.5 in |
| H | Height of full cone |  | 14.37 in |
| V | Volume of one truncated cone |  | 12.37 in3 |
| Vt | Volume of triceps |  | 24.74 in3 |
| FLt | Fiber length of triceps |  | 1.38 in |
| CSAt | Cross-sectional area of triceps |  | 17.93 in2 |
| Ts | Specific tension | 51 lb/in2 | 51 lb/in2 |
| Cos 45o | Cosine of fiber angle | 0.7071 | 0.7071 |
| Ft | Triceps muscle force |  | 646.6 lb |
| Ftls | Triceps lever system force production |  | 58.78 lb |