

zenoLINK



welch-e technologies

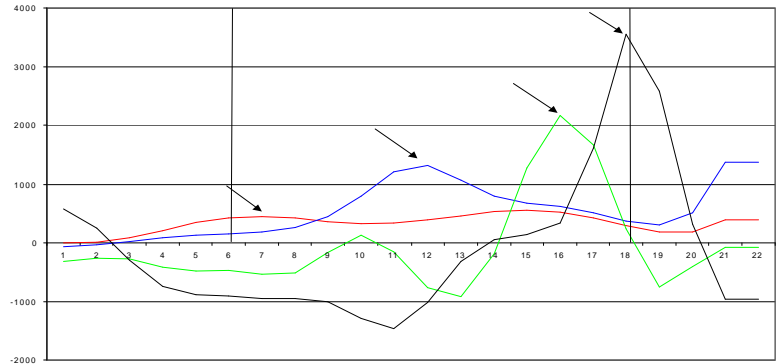
Quick Look

SM



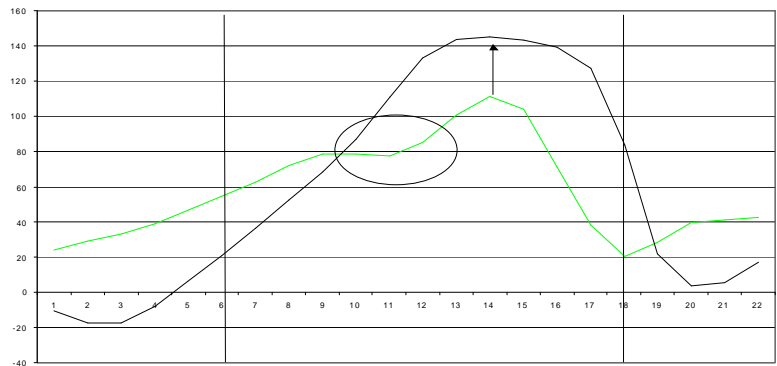
The Kinetic Link

The generation of distal end implement speed through the conservation of momentum of a system of body segments and muscular links.



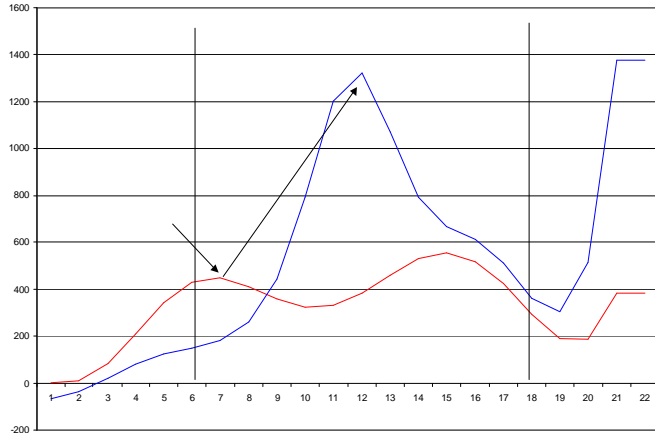
Muscular Loading

Utilization of the stretch-shorten cycle to enhance concentric muscle action and work output.



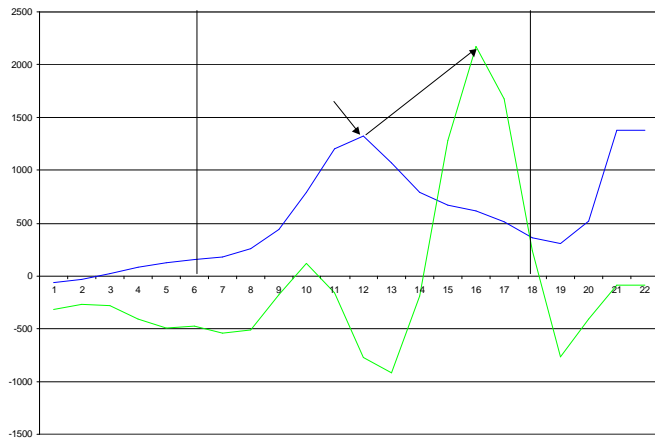
KINETIC LINK

Generation of extremity speed through the conservation of momentum.



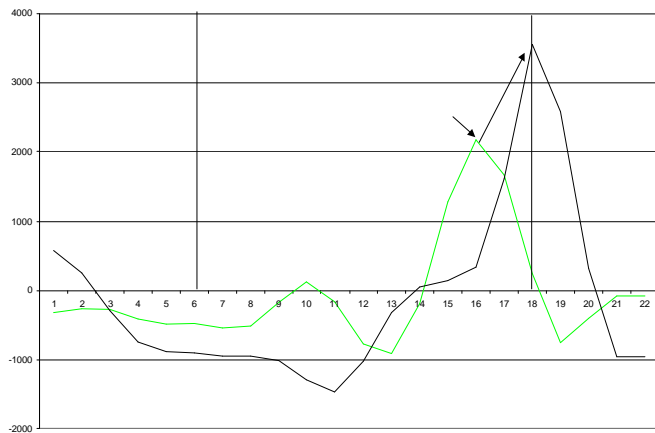
HIPS TO SHOULDERS KINETIC LINK COORDINATION

| | |
|-------------------------|-----|
| Peak Hips Segment Speed | 449 |
| Acceleration | 53 |
| Deceleration | 46 |
| Power Ratio | 175 |



SHOULDERS TO ELBOW EXT. KINETIC LINK COORDINATION

| | |
|--------------------------|------|
| Peak Shldr Segment Speed | 1322 |
| Acceleration | 264 |
| Deceleration | 264 |
| Power Ratio | 212 |

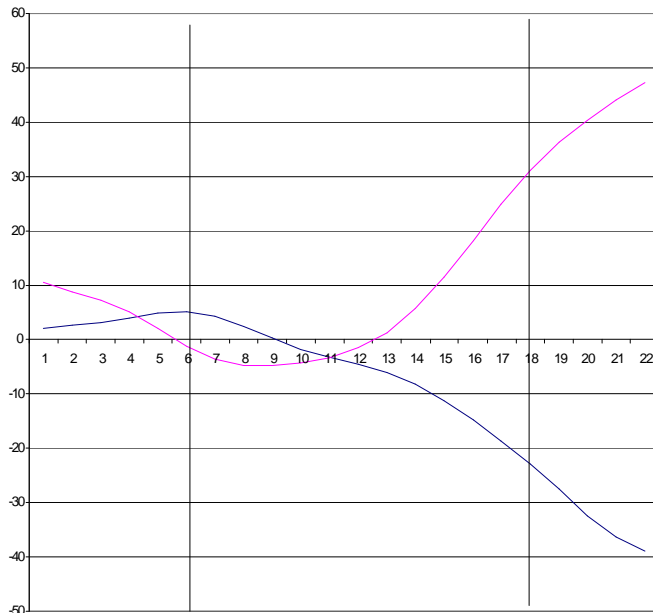
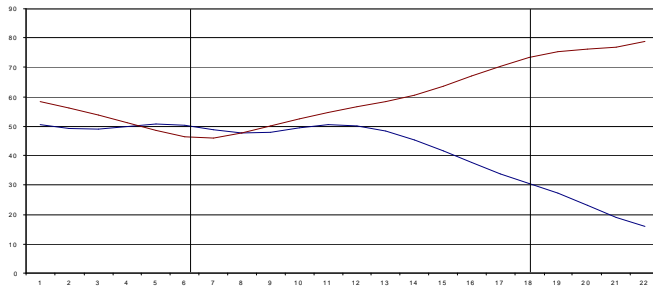
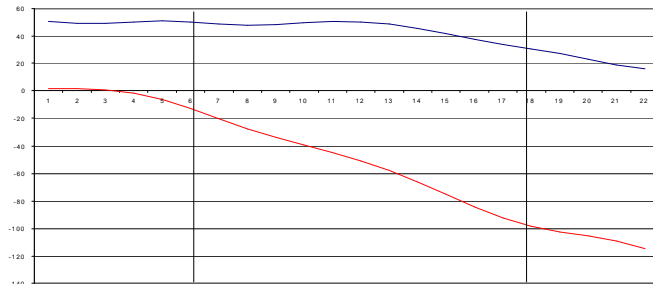
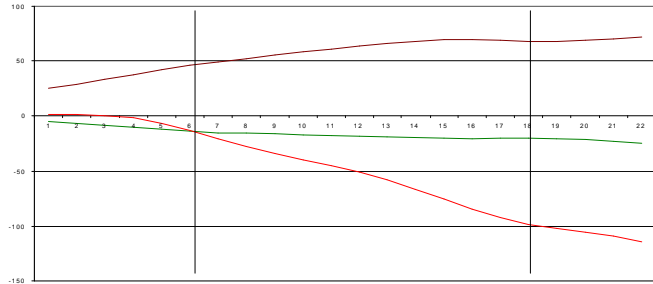


ELBOW EXT. / SHLDR INT ROT KINETIC LINK COORDINATION

| | |
|----------------------------|------|
| Peak Elbow Ext. Speed | 2169 |
| Acceleration | 1181 |
| Deceleration | 964 |
| Power Ratio | 689 |
| Peak Shldr Int. Rot. Speed | 3547 |

STABILITY

The ability to create and maintain a platform for dynamic movement.



LOWER BODY STABILITY
 Hip Rotation vs. Linear Displacement
 Hip Rotation vs. Plant Knee Flx/Ext
 Plant Knee and Hip Flx/Ext

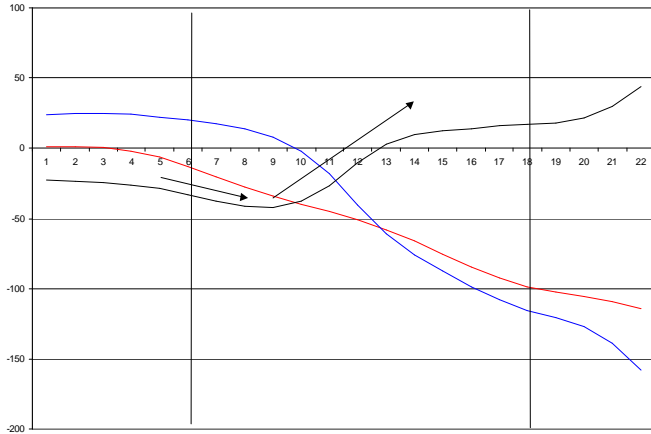
| | |
|---------------------------------|------|
| Hip Rotation at FC | -13 |
| Rate of Knee Flx at FC | 0 |
| Total Knee Flx FC - BR | -16 |
| Rate of Hip Flx at FC | 2 |
| Total Hip Flx FC - BR | 24 |
| Rate of Displ. at FC | 3.01 |
| Total Displ. FC - BR | 2296 |
| Stride Length (%leglnth) | 149 |
| Stride Direction | -10 |

TRUNK STABILITY
 Flexion/Extension and Lateral Bending

| | |
|--------------------------------|-----|
| Trunk Flexion at FC | -1 |
| Rate of Trunk Flx at FC | 0 |
| Total Trnk Flx FC - BR | 26 |
| Lateral Bending at FC | 5 |
| Rate of Lat. Bnd at FC | -2 |
| Total Lat. Bnd FC - BR | -24 |

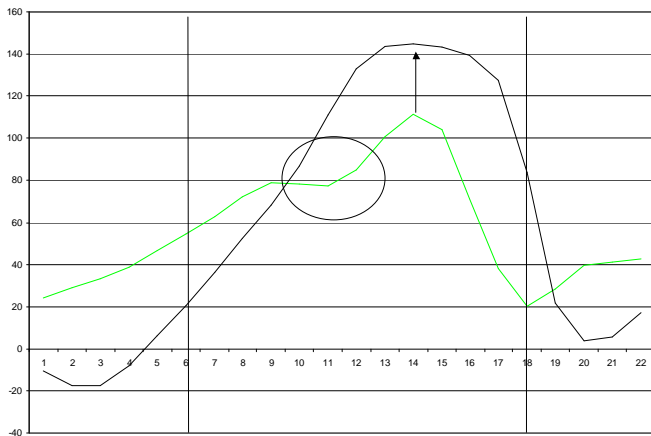
MUSCULAR LOADING

Utilization of the stretch-shorten cycle to enhance power output.



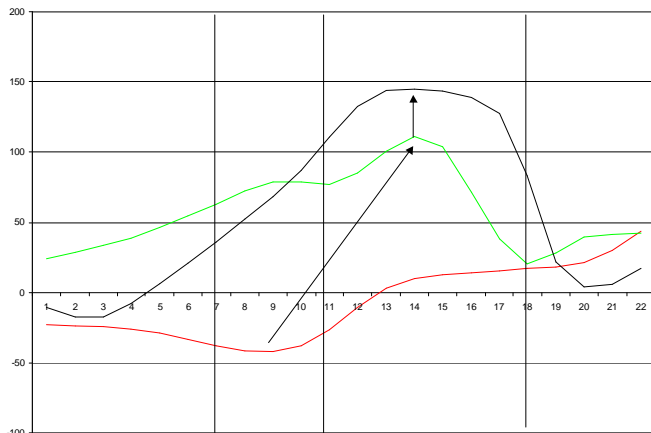
TORSO LOADING SSC BETWEEN HIP/SHLDRS

| | |
|--------------------|-------|
| Maximum Separation | -42 |
| Rate of Stretch | 3.04 |
| Rate of Shorten | 10.58 |



THROWING ARM/SHOULDER SSC OF THE SHLDR/EXTREMITY

| | |
|------------------------------------|-------|
| Maximum Shoulder External Rotation | 145 |
| Rate of Stretch | 11.37 |
| Rate of Shorten | 5.87 |
| Maximum Elbow Flexion | 111 |
| Rate of Stretch | 11.36 |
| Rate of Shorten | 24.38 |

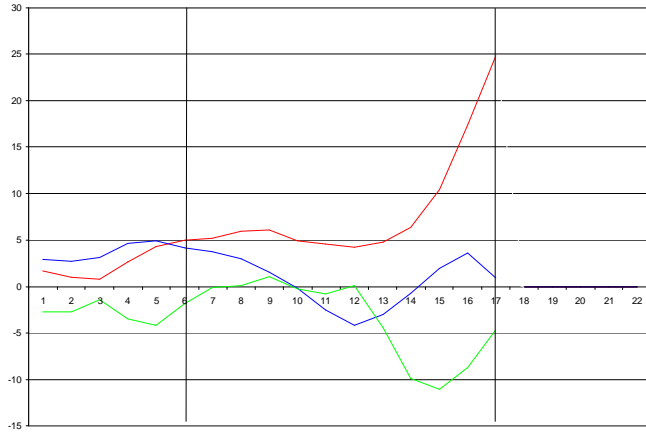


LOADING SEQUENCE COORDINATION

| | |
|-------------------------------|---|
| Point of Max Torso Stretch | 8 |
| Point of Max Triceps Stretch | 3 |
| Point of Max Shoulder Stretch | 3 |

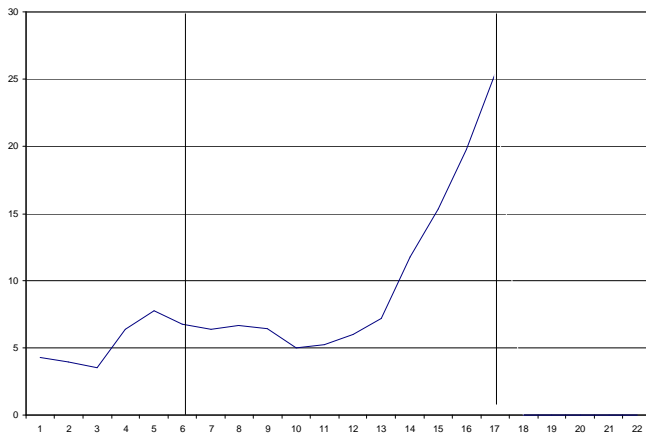
BALL SPEED

The resultant effect of body movement on ball speed and trajectory.



BALL in THROWING ARM/HAND
3-D VELOCITY TRAJECTORY

| | |
|-------------|---------------------------------|
| X component | <input type="text" value="25"/> |
| Y component | <input type="text" value="1"/> |
| Z component | <input type="text" value="-5"/> |



BALL in THROWING ARM/HAND
RESULTANT SPEED

| | |
|-------------------------|---------------------------------|
| Release Speed | <input type="text" value="25"/> |
| Acceleration to Release | <input type="text" value="5"/> |