ADAPTIVE FLY CASTING INSTRUCTION - TECHNIQUES FOR PHYSICAL LIMITATIONS

PRACTICAL APPROACH TO COMMON AILMENTS THAT LIMIT FLY CASTING - SHOULDER PROBLEMS

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Brian and I shared a common culture. We had both played and worked at hi-impact activities. Last year, his accumulated trauma caught-up with him and a talented Orthopedic Surgeon extensively re-built his right shoulder, reconnecting an adductor tendon that finally wore through. It was a complex intervention, but we spent some time before the surgery working on strengthening exercises and adaptive devices to ease his convalescence. We called it *pre*-habilitation.

Several weeks of rehabilitation with some skilled therapists meshed well with his desire to get back to fly fishing. When released by the surgeon, we played with a 3-weight. Nothing came easily and Brian gently worked through every glitch with solemnity and quiet determination. We identified signals he needed to listen to when his body told him to stop. He said I was . . ." as mean as the evil therapist"'. . . and we both laughed.

I caught him delivering a loop with elbow higher than his hand a few times. He avoided moving the elbow down. I lifted the light rod from his hand and said,"Let your arm go limp and drop your elbow." He did and I asked him, "Did that hurt?"

He said, "No. I am just anxious about moving my shoulder. I feel kind of awkward."

I reassured him that his surgery was a game-changer and that finishing formal therapy did not equal the stopping point of rehabilitation. A few sessions later the elbow and hand were still almost at shoulder level at the end of the cast. I ordered. "Don't move." I let him hold his rod up there until fatigue forced him to let it fall. I started him up again immediately. He did not have the stamina to hold the elbow up and the cast shot out with ease. His elbow rested low in front of him. I asked. "Is that feeling better?"

He laughed at himself and said, "Yeah, thanks."

Six months after surgery Brian still limits use of his 9-weight, but he fishes all day with his 5-weight.

A FUNDAMENTAL CONCEPT – AS CERTIFIED INSTRUCTORS SERVING OUR STUDENTS, WE MUST CHANGE PAINFUL MOVEMENTS SUBSTITUTING ALTERNATIVE PAINLESS MOVEMENTS TO DELIVER A FLY. FEWER TWISTS, CAREFUL POSITIONING, ADAPTIVE GEAR, LESS FORCE, SLOWER SPEED; ALL *MIGHT* REDUCE POTENTIAL FOR IRRITATION. A PRIMARY RULE IS, "*If it hurts, stop doing it that way!"*

Recommendations reflect concepts of Physical Medicine and Rehabilitation applied to movements of straight-line fly casting with a single-handed rod. Consider these simple adaptations when shoulder pain recurs despite proper medical care.

SHOULDER PAIN

Fly casting, properly executed, likely *causes* no new injury to shoulders of people well-prepared for the activity. Excellent technique may be defined as minimal work by the caster extracting maximum performance from the gear. Incorrectly performed casts by anglers who are poorly conditioned and improperly trained, more likely will aggravate existing frailties and flare-up previous injuries. Applying excessive force beyond that needed increases risk of ill-effects.

The popular press effectively raised awareness of injury to the "Rotator Cuff" as evidenced by the common self-diagnosis of this malady and frequent referrals from providers concerned about a "possible rotator cuff injury". The Rotator Cuff is a group of four muscles that hold the head of the humerus (arm bone) into a shallow socket during *rotational* movements of the arm, like throwing. Strains of any of the four muscles, or any of a dozen other muscles in the region, can generate considerable discomfort. Most shoulder pain does not need surgery. Most rotator cuff tears require **no** surgical intervention.

In addition to muscles, inflammation of ligaments holding the vulnerable shoulder joint together may produce pain with movement and risk of instability. Tendons that attach muscles to bone may experience overuse and overload symptoms.

When pain limits casting, general rules of adaptation suggest; 1) rest 2) seek qualified physician care 3) decrease mass, length and line weight of casting apparatus 4) alter movement to diminish discomfort.

I learned a lot from Al Kyte in recent years. Being familiar with his article describing arm styles in casting might aid the Certified Instructors communicate with other well-read educators. http://www.fedflyfishers.org/Portals/0/Casting/Master%20study%20guide%20articles/Al%20Kyte/arm%20styles.pdf I consider neither casting plane nor elbow position to constitute a complete casting "style". For almost every fly angler, many casting adaptations must be employed to address the variety of fishing situations encountered in a given outing.

ELBOW FORWARD POSITION - The most shoulder protective *style* is with the elbow forward throughout the cast. The higher the elbow *stays* and the further the elbow moves away from the body above the shoulder, the greater the risk for significant damage. Thus high elbow with elbow to side poses inherent risk of shoulder discomfort.

***PRE*-HABILITATION AND REHABILITATION -** Proper conditioning needs to precede use of increased weight rods and to integrate with rehabilitation of shoulder pain. Resistance exercise builds strength while proper aerobic activity enhances stamina. *Therapeutic exercise prescription falls within the realm of trained sports and rehabilitation physicians and affiliated therapists. Refer to them appropriately.*

LET THE ELBOW DESCEND - Avoiding high elbow, especially to the side, provides less biomechanical potential for shoulder pain from angling. Misguided casters may keep the elbow elevated attempting, incorrectly, to "stabilize" the elbow.

SIDEARM DELIVERY - The sidearm cast carries less potential for injury if the elbow stays at or below shoulder height throughout the stroke. Sidearm casting plane utilizes more motion from the spine, hips and legs to generate the cast. Movement contribution from core body elements reduces the amount of isolated motion demanded solely of the shoulder. Low-elbow, sidearm plane might be inadvisable for those with spinal pain or leg problems.

Sidearm delivery often becomes a default adaptation for persons who suffered severe injury or did not fully rehabilitate after an episode of painful shoulder. Examples include tendon rupture, frozen shoulder, shoulder fracture or fusion, paralysis, polio, brachial plexus nerve damage, and failed rotator cuff surgery.

USE NON-DOMINANT SIDE – Few situations make one appreciate capacity to cast with either arm like a physical limitation. In addition to providing rest to the affected limb, one enhances the versatility for presenting a fly. More detailed recommendations for developing non-dominant casting may be found on page 8 of *The LOOP,* Winter 2010 http://www.fedflyfishers.org/LinkClick.aspx?fileticket=GzuHp0rHwMA%3d&tabid=4469&mid=3361

ROLE FOR TWO-HANDED ROD - Two-handed rods have enjoyed greater utilization in recent years. They might be seen as a double-edged sword, figuratively and practically.

On The positive, the hands typically operate at different heights relative to the shoulder. The fact that less shoulder range of motion is required seems one inherent benefit to shoulder pain sufferers casting with double-handed rods. The work of casting distributes between both arms as does supporting the mass of the angling tools.

Potential risks include, greater overall weight and longer length combine to magnify swing-weight. See the March, 2008 SL article *Measuring Fly Rod "Swingweight"* by Grunde Løvoll and Magnus Angus, at http://www.sexyloops.com/articles/swingweight.shtml The opportunity to completely rest one side never arises unless the rod is set down. For these reasons, two-handed rod may be best tried after non-dominant side casting fails.

WORK *WITH* A LONG-STANDING ADAPTATION - If sidearm casting results from a severe structural injury, be cautious about enforcing a change in casting plane during instruction. Work with the style exhibited by the student. Apply your fundamental knowledge of casting mechanics to help them cast more efficiently *in their style*.

Summary of 8 recommendations for SHOULDER PAIN in fly casting students –

ALLOW ELBOW DESCENT	**USE ELBOW FORWARD STYLE**
PHYSICAL CONDITIONING	**QUALIFIED FFF CERTFIED INSTRUCTION**
NON-DOMINANT SIDE CASTING	**SIDEARM DELIVERY PLANE**
TRY TWO-HANDED ROD	**WORK *WITH* LONG-ESTABLISHED ADAPTATIONS**

ADDITIONAL INFORMATION ABOUT SHOULDER RECOVERY

The painful shoulder complex demands careful and astute assessment, including imaging, informed by the thorough exam of a specifically qualified medical practitioner. My experiences cause reluctance to accept work-up by non-physician providers. However, a team approach richly expands resources available to recover. First do no harm; second approach treatment as conservatively as might help. Here we go back to Rest, Ice, Compression, and Elevation (R.I.C.E.). Not surprisingly, rest often helps, earning the inflated euphemism "*tincture of time*". Coordinated treatment usually benefits patients with less-than-catastrophic shoulder injuries. These patients recover with careful application of non-surgical therapy, injections, and coordinated bracing.

In dozens of fly casting shoulder pain referrals, I have never seen a **new** rotator cuff tendon tear from fly casting alone. Each time, careful patient history reveals previous high-risk activity with tell-tale symptom progression. Likewise, a completely disrupted rotator cuff tendon cannot recover from anything less than expert surgical repair. Partial tears and associated joint changes may worsen by continuing the same activity that caused the initial insult. The weakened and stretched stabilizers may gradually require adaptive maneuvers to accomplish everyday tasks. Sometimes the surgical repair of the tendon is one of the simpler parts of a shoulder fix. Muscle balancing, manipulation, exercise, acupuncture, massage, physiotherapy, injections, pills, and etcetera never re-attached the ends of a retracted tendon. If someone makes a claim for such, it defines improper diagnosis

My general observations about rotator cuff surgery survivors - Younger and stronger surgical patients recover more function than gray-haired, couch potatoes. If surgical intervention is extensive, with bone remodeling and many structural repairs, the end-result more likely includes compromised strength and function. Typically, stability and pain are rapidly improved. Post-surgical rehabilitation and adaptation continues long into the future. Some fine Orthopedic Surgeons have a real "knack" for these repairs and effect masterful reconstructions of complicated injuries. Patient attitude and determination to maximally recover remain intangibles that confound these generalities. Aggressive patients can overdo activity and injure soft tissues that were not part of the surgery. They need rehabilitative and adaptive help with shoulder pain. They also need to fly cast with a newly embraced *minimalist* approach of exquisite loops derived from delayed rotation, fine-tuned gear, and perfect timing. That's where the experience of an FFF Certified Master or Instructor works their magic, applying adaptations that help. GE