



## Rowing Technique- Painting a Clear Picture

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In the International rowing community, I doubt if there are any more respected coaches than Mike Spracklen, currently the national team coach for the US men's sweep team. In the last several years, he has taken the US to levels of success not seen in the last 20 years, including several world championship gold medals. Previously he led both British and Canadian teams to Gold. He is technically astute. His teams achieve peak performances at the most important times. And, as a former Olympian here in Norway told me, "he is a really nice guy." Mike has made the main elements of his approach to rowing technique an open book, providing it through both publications and presentations. However, since some of you may not have access to all of that information, I am reproducing it here on the MAPP. As rowers, it is critical that each of us develop a clear picture of the rowing style that we are attempting to achieve on the water. Until that picture is burned in, our technical training will always flounder. I am definitely not a technical wizard in rowing. But like you guys, I try. My own picture of the ideal rowing stroke was one hazy mess until a coach and friend named Matt Diefenbach came along. In all respects I found his model to be the same as the Spracklen ideal presented here. So, this basic technique has become my personal bias, and the one I will try to perfect on the water for the next decade or so. I think you will find that the philosophy of most elite coaches shares much in common with what is presented below.

## Rowing Technique- The Mike Spracklen Method

### POWER, LENGTH, AND RATE

Three factors determine the speed of the boat. They are:

1. POWER- How FAST the boat travels each stroke
2. LENGTH- How FAR the boat travels each stroke
3. RATE- How MANY strokes are rowed.

If a crew rowed at maximum capacity in all three of these components at the same time, it is doubtful they could row 10 strokes before technique withered and boat speed faded. The number of strokes required to complete 2000 meters is from 200 to 250 and clearly, an equilibrium of power, length and rate must be achieved. Rowing is basically a power endurance sport, but it requires a high level of skill. Choosing the "right" technique and then teaching it is a coaching skill and there are many differing opinions about which method is the best. Whatever the method preferred, power, length and rate are the basic ingredients.

### RATE

Rate is the easiest to achieve. Keeping it at its optimum in a race is not the main problem. Length and power are the first to deteriorate when the pressure of the race reaches its peak.

### LENGTH

The most efficient part of the stroke is when the blade is passing at 90 degrees to the boat. Only when it is at this

angle is its force propelling the boat wholly in the correct direction. In theory an efficient length of the stroke is from 45 degrees at the catch to 135 degrees at the finish. In practice the body prevents the oar from reaching more than 125 degrees. To achieve 45 degrees at the catch, the reach must extend beyond this angle. A longer finish can be drawn in a sculling boat but it is inefficient to draw more than 130 degrees.

## **POWER**

Maximal power is achieved by appropriate sequencing of the contributing muscles from strongest to weakest.

LEGS FIRST.....The quadriceps and gluteals

Then the BACK..... The lower back

Then the SHOULDERS and ARMS... The latissimus dorsi, trapezius, rhomboids, and biceps.

## **The STROKE**

The boat is only as fast as the blades drive it.

The power transferred through the blade to the boat is only as much as the legs supply.

A good technique is based on the work of the legs to create most of the total power.

## **THE CATCH**

"FIND the POST in the WATER"

The faster the blade enters the water the more positive will be the grip, the longer will be the stroke and the faster the boat will travel. The important points are:

1. Hands guide the blade into the water.
2. Legs apply the power
3. Trunk and arms link legs to blade

## **MIDDLE of the STROKE**

"the most efficient part"

All the muscles are working through their middle range and the blade is at its most efficient point in the stroke. Make full use of this advantage by beginning the draw with the arms before midway. The arms must start to draw well before the legs reach the backstops.

## **THE FINISH**

"send the boat away"

Retain pressure on the blade through to the finish by pressing toes on the footboard, by using the leverage of the trunk, and by keeping the arms working with the body. Although legs reach backstops before the arms and trunk have finished working, the toes should continue pressing hard to give support with the legs until the blade is extracted. The trunk should be moving towards the bow until the moment before the hands reach the body. (if the arm draw starts too late, this timing will be delayed.)

## **RHYTHM**

The rowing stroke comprises fast movements and slow movements. The essence of good rhythm in the boat is the contrast between them. Done well, a good motion looks smooth, continuous, and unhurried, so it can be difficult to see that contrast. The FAST movements begin with the entry of the blade and continue through the stroke and the movement of the hands away from the body after blade extraction (the finish). The slower movements begin when the hands pass over the knees and continue until the next stroke. The inertia created by the power of the stroke carries the hands down and away from the body when the seat is at the backstops. The body relaxes immediately as the blade leaves the water so there is no interference with this natural free-flowing movement. The seat moves SLOWLY forwards in contrast to its speed during the stroke. The rower prepares by gathering, ready to spring from the stretcher onto the next stroke. The movement of the seat must be faster during the stroke than it is during the recovery. The sooner it leaves the backstops after the finish, the more time it has to reach the front stops and the slower it can travel. The hands and then the body move lively away from the finish to allow the seat to start on its way forwards.

## THE RECOVERY

"Let the boat run, rest, and prepare for the next stroke"

Hands, Body, Slide

1. Move the hands down and away over the knees
2. Pivot the body forward onto the feet
3. Move the seat away from the backstops
4. Move forward, rest the body and let the boat run underneath you.

## PREPARE FOR THE STROKE

To achieve optimum position for the application of power and good forward length. Note the following points.

1. Head High- encourages good posture for body and spine
2. Chest against thighs- Rotation should be centered around the hip joint, not the upper or lower back.
3. Shins vertical- strong position for the quadriceps
4. Relaxed but alert- poised like a cat ready to spring

## THE HAND POSITIONS

### Sculling

(My additional comments)- The oar handles should be held in the fingers, not the palms. The hands should generally be at the tips of the oars to maximize inboard leverage, with the thumbs pressed against the handle nub to generate sufficient outward pressure against the oarlock. As Frank Cunningham said, "The handles should be grasped like one was holding a small bird: Firmly enough to hold on, but not so hard as to kill it." The grip of the fingers around the oar will automatically increase sufficiently when contact with the water is made. The arms and hands should extend along a horizontal plane out well over the gunnels as the blade angle is increased in preparation for the grasping of the water. The entry of the blade into the water will be accomplished with a relaxation or slightly positive "flick" of the hands and arms while maintaining the back angle (not opening the back to achieve the catch).

**Sweep-** Hold the oar with the hands 4 to 6 inches apart (11 to 15 cm).

Turn the blade with the inside hand.

Apply power with the outside hand

## RELAXATION

Contract only those muscles needed to perform a specific function. This is achieved by relaxation of the hands, arms and shoulders, the areas where tension will be most prevalent. The muscles of the upper body will be more effective if they enter into the catch in a relaxed condition. Muscles will contract instantly when a load is forced upon them.

## BLADEWORK

The importance of bladework must be appreciated. Only the blades move the boat, therefore an important part of the technique is the skill with which the blade is controlled.

A good blade is described as:

1. A long stroke in the water

Minimum loss of reach forward

Quickly grips the water

Covered throughout the stroke.

2. Utilizes power.

Grips the water with minimum loss of leg drive.

Works in a horizontal plane

Covered throughout the stroke

3. Does not interfere with the run of the boat.

Clean extraction

Carried forward clear of the water

Balances the boat

## **Rhythm-Where to Poise**

It is always necessary to compose before any dynamic action (i.e. throwing a discus, lifting a weight, hitting a ball, or rowing a stroke). The question is, Where is the best place to "poise" prior to the action? There are different schools of thought in rowing on where the poise should be and currently, it is popular that it be during the first half of the recovery. The attack on the stroke begins before well before the slide has reached front stops. The seat accelerates forward from the poise position into the stroke and is thought to be the best way of achieving a fast catch. The poise can be at the backstops or it can be halfway forwards.

The disadvantages are.... The movement is robust and energy consuming.

The method taught by me is to poise during the last part of the movement towards the front stops. The inertia created by the draw at the finish is used to carry the hands away from the body, the trunk into the catch angle and the seat from backstops. The rower has time to relax, let the boat run under the seat, and to prepare for the next stroke. The poise just before blade entry is sufficient to achieve a very fast catch.

## ROWING STYLES

Rowing styles differ in where emphasis is placed. The emphasis, for example, may be the catch, the finish, or the rhythm. Body positions and movements will be influenced by this emphasis. The method I prefer is based on rhythm. The stroke is divided into two phases: 1) The **STROKE** or power phase, and 2) The **RECOVERY** or resting phase. The oarmen are trained to apply full power to each stroke and to rest during the recovery, which will help them apply power to 200 strokes or the number required to complete the race.

The ability to apply power is an essential physical requirement. Physical capacity is acquired by training, but the coordination of muscular contraction in the rowing stroke is the essence of good technique.

## ALTERNATIVE METHODS

The rowing action is full of compromises. We all see things differently. Here are a few examples:

BLADEWORK		
ACTION	ADVANTAGE	DISADVANTAGE
A deep blade	water density is greater less blade slippage	1.directional force is reduced 2. backwatering occurs 3. many inconsistencies
BODYWORK		
a long reach forward	a longer stroke	weaker body position at the catch
a long slide forward	increased length of leg drive	reduces speed of legs reduces trunk leverage
THE CATCH		
emphasis on legs	faster blade entry	slippage in back back vulnerable to injury
emphasis on back	protection of back	slower catch
The FINISH		
body upright	less weight on the bow less use of stomach muscles	reduced leverage of trunk weaker finish
long swing	longer and stronger finish	hands draw higher pressure on bow more value in slower boats
RECOVERY		
fast hands	more time for sliding encourages strong finish helps relaxation	finish can be hurried and cut short encourages a brutal movement



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