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Intermediate Rowing Technique

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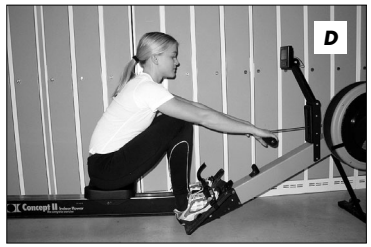
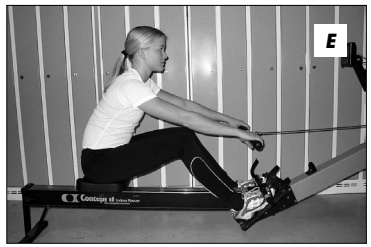




Rowing ergometers are used in many training programs in the preparation period, not only for physical training, but also for instruction and technical training. In this series the body movement are parted up as follows:

A – Finish position
B – Arm starts the recovery
C – …followed by the body
D – …and the gliding starts (arm-body-legs)
E – During the drive the order is legs-body-arms.

1.0 INTRODUCTION

The FISA CDP Level 1 booklet titled BASIC ROWING TECHNIQUE provided a description of the rowing stroke cycle. In this booklet, a brief review of that material will be presented as well as a guideline for the periodization of learning guideline for the periodization of learning technique including a description of some useful drills. Finally, a chart will be provided to assist in technique error identification and correction.

2.0 THE STROKE CYCLE

The six phases of the stroke cycle were presented and described in BASIC ROWING TECHNIQUE. The reader is directed to refer to the description and diagrams presented in that booklet and in Appendix A of this booklet while reading the following review.

2.1 The preparation

The athlete utilizes the total body height in a natural position with arms approaching full extension and wrist flat. The shins are essentially vertical. The blades are squared and ready for the entry.

2.2 The Entry and First Half of the Drive

At the full forward position, hands and arms are raised to generate good blade depth in conjunction with the body weight being completely transmitted to the footstretcher. The active utilization of the body's muscles, particularly through the initiated leg drive and body swing, causes and effective transmission of force to the sculls.

2.3 The Finish of the Drive

Although he first half of the drive relies primarily on the legs, the upper body has also been initiated but lags behind the leg thrust. During the drive, the back muscles accelerate to catch up

to the leg drive with the shoulders and arms finishing. It is important that the body weight is utilized at all times and that the work is transmitted to the oars.

2.4 The Finish and Release

The maintenance of the body weight behind the oars with active and supporting back and legs allows the shoulders and arms to provide the maximum effort at finishing the drive.

It is important to maintain a good blade depth throughout the drive and execute a smooth, quick release with the blades feathered and clear of the water.

2.5 The first Half of the Recovery

The hands execute a quick and fluid movement of pushing the oars away from the body which will be followed by the forward swing of the upper body.

2.6 The Second Half of the Recovery

The upper body swings forward with the advancing hands and, as the body nears the correct position of the entry; the athlete commences the forward movement of the seat to initiate the new stroke.

2.7 Adaptation to Sweep Rowing

The FISA CDP advocates that the technique of sculling and sweep rowing is essentially identical although the asymmetrical movement of sweep rowing does require an adaptation of the body to the movement of one oar.

This adaptation requires the upper body to rotate in the direction of the oar movement, particularly as the oar is extended forward for the entry. In effect, the athlete will continue to face the oar, by allowing the body to rotate at the hips, and swing away from the centre line of the boat.

It is important during the forward reach that the athlete maintains a good position to transmit the body weight to the footstretcher and to avoid over extending the upper body.

2.8 Summary

The long-term objective of the coach and athlete is the mastering of good technique. This will be achieved when the stroke cycle demonstrates:

a. consisted pattern and length.
b. good blade depth.
c. firm, direct and consistent action of the blade.
d. relaxed, but controlled, body movements during the recovery.
e. Powerful, but fluid, body movements during the drive and with an overall impression of coordination, rhythm and economy of motion.

3.0 PERIODIZATION OF TECHNIQUE ACQUISITION

The FISA CDP has emphasized the necessity of the coach being organized and systematic in planning for athlete development. This is facilitated by the utilization of a plan to direct development. The planning process with its consequential division of the training year has been termed periodization.

The concept of periodization was introduced in level I and is expanded in INTERMEDIATE TRAINING METHODOLOGY. Its se in planning the improvement of the physical component of training is presented in SPECIFIC FITNESS TRAINING. In this booklet, the periodization of learning technique is presented, including a description of some helpful technique drills.

The acquisition of technical skills is a complex and continuous process but three progressive phases of motor development have been identified.

These phases are:

1. Rough coordination: the basic elements of the stroke are leaned.
2. Smooth coordination: the learned elements of the stroke are refined.
3. Stabilization: the refined elements of the stroke are stabilized with adaptation to changing conditions.

During the rough coordination phase, the athlete will concentrate on the major body segments (arms, upper body and legs), body posture and stroke length. It is also an opportunity to work on the dynamic balance of the body, boat and oar throughout the stroke cycle.

The smooth coordination phase emphasizes the repetitious practice of the elements introduced in the rough coordination phase. This practice consciously refines these activities into a more efficient and economic movement.

It is also an opportunity to evaluate technique modifications during increased training loads and to emphasis reactive coordination while working on the rhythm of the stroke cycle.

The stabilization phase is the period of acquiring smoother and more fluid movements that are quick, confident, and economic and proved under varying conditions, including competitions. These movements become automatic and will demonstrate consistent and rhythmical applications of power.

The information presented in Diagram 1 outlines this process as it may be applied during one training season. Although it is not exhaustive, this information is intended to provide a guideline to assist in the planned development of technical skills.

Diagram 1. – Periodization of Technique Acquisition

PERIOD	*PHASE*	*EMPHASIS*	*DRILL*
GENERAL PREPARATION	*ROUGH*	*BODY POSTURE*	*- getting into and out of the boat* *- attention to hand grip and body position; body upright, firm yet relaxed*
		LEG DRIVE	*- 1–3–5 strokes stopping hands on full extension during recovery* *- 1/2 slide rowing*
		UPPER BODY AND ARMS	*- rowing in pairs and fours, concentrating on hip swing during drive and recovery* *- rowing in pairs and fours, concentrating on steady arm pull* *- 1 stroke placement from release to entry* *- 1 stroke placement from entry to release with full arm and body extension*
		STROKE LENGTH	*- attention to stroke length; note, optimum stroke length only achieved when athlete increases technical proficiency and fitness.*
		BALANCE	*- stopping on command* *- rowing in pairs and fours with eyes closed*
			Attention to general dynamics of stroke cycle, stroke rate, overall control and consistency of rowing.
SPECIFIC PREPARATION	*SMOOTH*		*Repetitious practice of emphasis from rough coordination phase. Review body posture, leg drive, upper body swing (from the hips) and hand action.*
		SEAT/BLADE TIMING	*- rowing in pairs and fours* *- squared blade rowing for entry*
		ENTRY AND BLADE DEPTH	*- 1/2 slide rowing at front* *- one stroke pulls concentrating on blade depth*
		BLADE WORK	*- short work intervals at high rating* *- pick drill (arms only rowing)*

PERIOD	PHASE	EMPHASIS	DRILL
		GRIP	- 1/4 slide rowing at front with emphasis on hand control - emphasis on control and quickness during on release Continue attention to general dynamics of stroke cycle, stroke rate, overall control and consistency, and economy of motion by: (1) rowing at changing rhythms; (2) short sprints; (3) emphasis of power on drive followed by relaxed recovery; and, (4) rowing under various conditions
COMPETITION		STABILIZATION	Although attention may be given to the general dynamics of the stroke cycle, etc, the emphasis is on the movements becoming more refined, automatic, and competition proof having been tested under various conditions, including competitions.
TRANSITION			All rowing should be performed in small boats with an emphasis on an overall relaxed stroke cycle. An opportunity should be taken to evaluate the technical skills as demonstrated at the end of the prior period.

Adapted from an article titled Coaching Notes by Jim Joy (CAN)

4.0 TECHNIQUE CORRECTION

It must be remembered that the various elements of the stroke cycle will be learned, refined and stabilized at different rates during the season and stages of leaning; therefore, the leaning process is continuous and requires many years.

During this process, the coach and athlete are often able to identify specific elements of the stroke cycle which require modification. Keeping in mind the development process presented in the above section, Appendix B has been provided to assist in identifying and correcting these elements.

4.1 – Technique Correction

General Considerations:

a) It is more beneficial to teach proper technique in the beginning than to later correct technique.

b) It is important to ensure that the boat is properly rigged.

c) It is necessary to first observe and analyze the action of the blade and boat for a demonstration of the effect of improper technique.

d) Next, it is necessary to examine the relative body movements of the athlete to determine the possible causes.

e) Determine whether the relative body movement causing the problem is at the point of the demonstrated error or in the preceding phase of the stroke cycle.

f) Determine the method to correct the error.

g) Explain clearly to the athlete the effect, cause and correction of the error.

h) Demonstrate the correct body movement.

i) Since beginners may have difficulties to correlate the errors to the actual movements of the body, it is better to only show them the correct execution of the movements rather than showing them the incorrect movement.

j) Concentrate on one corrected body movement at a time. This is particularly important for beginners.

k) Short and frequent training sessions for technique improvement are better than using long and infrequent sessions.

l) Since increasing the effective force applied through the oar must be accompanied by an improvement in tech nique, it is necessary to work continuously on technique correction particularly during periods of increasing training loads.

m) Select and use exercises for technique improvement care fully to ensure the maximum benefits.

n) Remember, it is important to acquire a good sense of balance and rhythm during the period of learning technique to ensure tat the athletes develop the correct perception of the proper rowing technique.

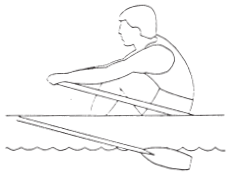
5.0 SUMMARY

This booklet has presented information about the description, learning and modification of the rowing stroke. It is hoped that this information will provide the coach and athlete with some practical guidelines to assist in the proper development of rowing technique.

6.1 Appendix A - Rowing Technique by Thor S. Nilsen (NOR) and Kris Korzeniowski (USA)

1. ENTRY

*Raise only the hands.
*Do not "open".
*Enter the water before beginning the leg drive.



2. DRIVE No.1

*Almost no change in the body position.
*The body is "hanging" on the oar and footstrecher.
*Work is done exclusively by the legs.

3. DRIVE No.2

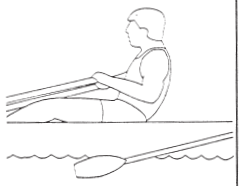
*Upper body slowly takes over the leg drive.
*The body starts to "uncoil" in a natural way.

4. DRIVE No.3

*Legs almost finish their work.
*The upper body still continues its swing.
*The arms begin their work.

5. DRIVE No.4

*End of the "layback".
*The arms move quickly and strongly to the body.



6. FINISH

*Forearms and hands move oar handles down and around in a fluid and continuous manner.

7. RECOVERY No.1

*Hands move away from the body at a constant speed.

8. RECOVERY No.2

*At the beginning of the slide, arms are past the knees.
*There is early forward body angle preparation.

9. RECOVERY No.3

*The slide is half-way through.
*The arms and upper body have finished reaching out.

10. BEFORE ENTRY

*Last part of the slide.
*All movements are finished except continuation of slide with concentration on a direct entry.