

## The PARAMETER drills

By coaching the 'parameter drills', we teach the paddler to scale a given technical parameter between its maximum and minimum values. The maximum value of any stroke parameter is often too much to use in racing performance and we might train it only to create some ability margins. While when the minimum value of a stroke parameter appears in a paddler's stroke, it usually represents a technical mistake or shows the inability of the athlete to use or adjust the given parameter. By varying the execution between the two extremes in practice, we hope to develop the athlete's ability to always instinctively choose the most efficient option during racing.

### We can use each of these drills in the following ways:

1) Contrast: Performing the drill with the given parameter minimized, and then switching instantly to a maximized execution of the same parameter.

Example: 10 seconds paddling with emphasized paddle slip → switch to 20" paddling with zero paddle slip and perfect paddle grip feeling.

2) Progression: Performing the drill with the given parameter minimized, and then gradually progressing to a maximized execution of the same parameter.

Example: 30" paddling - starting with very low leg & hip engagement, and small pelvis rotation → gradually progressing to more and more leg & hip engagement, resulting in the final execution of emphasized rotation originating from very active leg & hip work.

3) Intensity: Performing the drill with a given parameter maximized (or other value), first performing it at low intensity (power, SR or both) and then at a high intensity (progressively, or by switching).

Example: 30" paddling - starting with perfect posture at low intensity and then progressing to higher intensities until the point where perfect posture (pelvis, chest, shoulders, chin, breathing) can't be maintained.

4) Conditions: Fine-tuning every stroke parameter can be done through gradual progressions, fast switching (on-off), at lower and then higher intensities, but eventually also in more difficult conditions (wind, waves, current), or when tired (in rests between intervals, after the main part of sessions, or during a race cooldown).

Example: Paddling with a good connection at a medium speed → Paddling with a good connection at a higher speed → Maintaining a good connection when paddling in wavy conditions.

5) Combining multiple parameters: focusing on perfect execution of multiple parameters at once, and adjusting it to the prescribed intensity.

Example: Focus on a good combination of rotation/body inertia+appropriate R1+grip at a lower paddling intensity → progressing and adjusting all 3 parameters in focus to paddling at a much higher intensity (more rotation and body inertia are needed to withstand a longer R1, paddle grip must be improved as well to prevent paddle slip from using higher forces on the blade)

## List of the parameter drills:

- 1) Grip
  - > no slip, no splashback
  - > creating additional mass on the blade using the wing effect (the concept of 'using the back of the blade')
- 2) Posture
  - > optimal pelvis, spine, chest, shoulders and head position, as well as correct breathing patterns
- 3) R2 length<sub>[1]</sub>
  - > varying between a narrower and a wider stroke - the catch is always happening right next to the hull, but R2 (distance of blade to boat) increases constantly from catch until exit – the paddler has to find the perfect end-width of stroke and avoid closing the blade's path back to the boat before exit
- 4) Connection
  - > internal connection (body):
    - strong bracing between hips-pelvis- shoulders-arms to produce one single moving mass (the 'block concept')
    - firm positioning of legs-core-arms-paddle for the most powerful, stable catch phase (the 'catch frame concept')
  - > external connection areas (paddler-equipment):
    - the feet - footrest & foot straps connection
    - the buttocks & hips - seat connection
    - possibly also the palm - shaft connection
- 5) Rotation from the hips
  - > legs lead the rhythm, legs lead the timing of other movements, legs give power and create the inertia along with the core
- 6) 'Height' of top hand and a more vertical position of the blade in the frontal plane
  - > to allow R1 increase in the next exercise, to help alignment (appropriate column positioning) and centering the athlete in the boat (appropriate weight shifts), for boat direction and for allowing the blade to have a more efficient position in the water
- 7) R1 length<sub>[2]</sub>
  - > there are 3 actions a paddler can do to increase R1 length ('top hand is guiding' concept):
    - maintaining the top hand height (between catch and exit)
    - slowing the top hand shooting forward (during the pull phase)
    - preventing the top hand from dropping downwards during the pull phase

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## 8) Rotation and Inertia Forward

- forward rotation of the side opposite to where the stroke is happening
- the idea of no body part on the stroke side moving backward - nor paddle, hand, body or hip (concepts of 'only opposite side moving forward')

## 9) Squeezing the hips ( or 'the energy bank')

- means completing the whole rotation forward until the exit - after the blade leaves the water hips, core and shoulders freeze and don't move forward anymore (it would slow down the boat), after exit only the arms move to bring the paddle from the exit position into the next catch ('in the water only legs and core, in the air only arms' concept)
- looking to produce every last bit of forward inertia whilst the blade is still in contact with water (the idea of 'squeezing the hips before exit') and at all costs avoid to continue with forward rotation or leaning forward to gain 'stroke length' once in the air.
- the concept of no body part moving backward during the pull and the concept of jumping into a new stroke can be thought of together as the 'energy bank' concept. and the concept of 'recycling the energy of the stroke'

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For help with your technique see our [Technique Analysis](#).

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