COACHING RECOMMENDATIONS
NEW FINA FIGURES 2017-2021

Dear Synchro Coaches,

This document is specifically designed for you to provide some material and assistance with the new FINA figures for 13-15 and 12&Under age group athletes.

The document is broken down into 3 parts: judging information, 13-15 figures and 12&Under figures. Each figure section includes the 8 FINA figures and for each figure it includes: the FINA figure description for that particular figure, the NVT, most challenging parts, common mistakes, suggested drills and coaches' recommendations as well as videos of drills and exercises.

Note that this document is fluid and serves as guidelines for coaches. Coaches may want to contribute additional drills and perhaps make suggestions regarding alternative ways to perform a figure. Our goal is to provide as much assistance as possible for the coaching of these figures but also to create a platform to share knowledge and recommendations for coaches and judges.

Please feel free to email your feedback and recommendation to the High Performance Director at myriam@usasynchro.org or to the Education Director at shari@usasynchro.org.

Thank you,

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High Performance Director

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Education Director

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BASIC PRINCIPLES OF FIGURE JUDGING

Definition of a Figure:

A figure is a combination of basic body positions and transitions, performed in a manner and order as prescribed by the FINA Handbook rule descriptions.

FINA RULES FOR JUDGEMENT OF FIGURES:

The competitor can obtain points from 0 – 10 using 1/10th points.

Perfect 10
Near perfect 9.9 – 9.5
Excellent 9.4 – 9.0
Very Good 8.9 – 8.0
Good 7.9 – 7.0
Competent 6.9 – 6.0
Satisfactory 5.9 – 5.0
Deficient 4.9 – 4.0
Weak 3.9 – 3.0
Very weak 2.9 – 2.0
Hardly recognizable 1.9 – 0.1
Completely failed 0

All judgements are made from the standpoint of perfection with each transition of the figure having a numerical value based on its difficulty (NVT). Large, medium and small deductions shall be taken from the percent value of ten (PV) of each figure as follows.

SMALL DEDUCTION => Deduction 0.1 - 0.5 points.

A small deduction shall be taken when the transition follows the description of the figure with minimal deviations of 1-15 degrees.

MEDIUM DEDUCTION => Deduction 0.6 - 1.5 points.

A medium deduction shall be taken when an attempt is made to follow the description of the transition but there are some obvious deviations of 16-30 degrees.

LARGE DEDUCTION => Deduction 1.6 - 3.0 points.

A large deduction shall be taken when the transition does not conform to the description by 31 degrees or more.

Deductions for excessive travel or lack of required travel in any transition shall not exceed 0.5.

NOTE: A deduction may not exceed the PV of the respective transition.

Key points for coaches to remember about how the judges evaluate the figures:

1. Plumb line points of reference are used when evaluating vertical and horizontal alignments.

2. The head always follows the alignment of the spine.

3. When initiating a transition, the swimmer never begins by reversing the specified direction of movement.

4. Unless otherwise specified by the figure description, all movements are executed so as to be equal in time and space, with simultaneous and concurrent action within transitions. All movements specified within a transition should begin from the specified starting position and be completed with the achievement of the specified final position and level.

5. Axis: a straight line around which the body rotates. a. Longitudinal axis - the lengthwise center of the body. b. Lateral axis - extending sideways from the body, either through a cross section (such as the hips), or outside the body.

During a specific figure movement, the use of the term horizontal or vertical axis specifies the relationship of the longitudinal axis to the surface of the water.

6. Height is evaluated based on the water level of body parts.

Key points for coaches to remember when reading the FINA manual and especially figure descriptions:

1. There is a pause only for bolded positions (otherwise, the figure is performed in a continuous motion).

2. Transitions are outline in Italic in the figure description.

3. When a part of a figure is described in another figure, make sure to read the full description for that figure. For example, in the figure "Jupiter", it says that a "Dalecarlia is executed until the Knight Position". All coaches must ensure to review the figure called Dalecarlia to ensure they understand what the beginning of the Jupiter figure is.

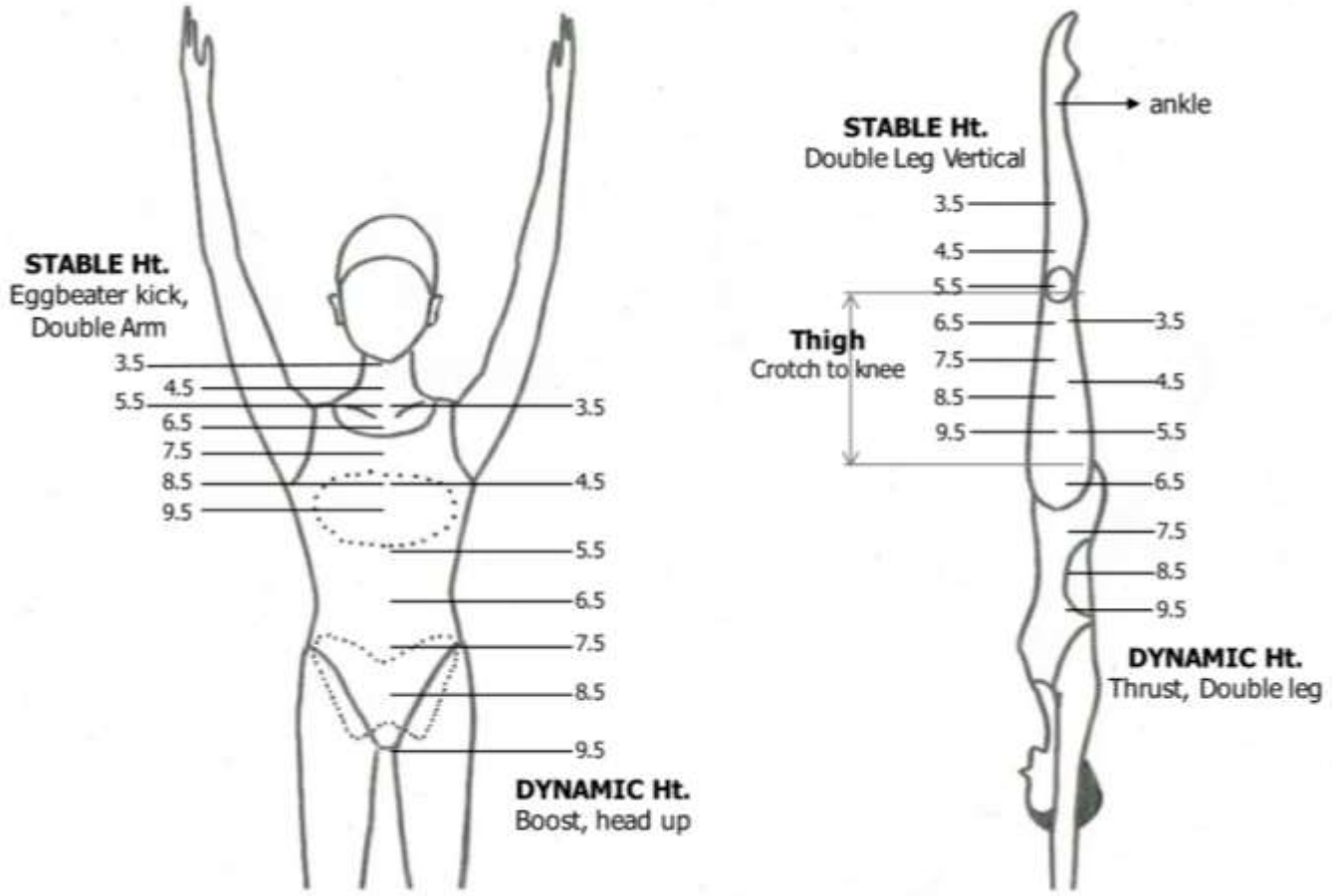
FINA has created several scales to better define the standards for figures. In the next few pages, you will find the scales for terminology, height, split flexibility as well as the newly created "small deviation, medium deviation and large deviation".

All coaches are encourage to attend the Judges Association update even if they are not judging, to learn more about the FINA rules for the next 4 years and various additions that have been made to the FINA Manual, Handbook (rulebook), and USA Synchro rules.

GUIDING SCALE FOR HEIGHT QUALITY OR PERFORMANCE TERMINOLOGY

Water Levels For:		Excellent/ Near Perfect	Very Good	Good	Competent	Satisfactory	Deficient	Weak
		9.5	8.5	7.5	6.5	5.5	4.5	3.5
Stable Height	Vertical Double Leg	Upper thigh	Upper mid thigh	Low to Mid thigh	Above knee cap	Knee cap	Below knee cap	Well below knee cap (mid shin)
	Vertical Bent Knee	Showing hips	Crotch level	Upper thigh	Mid thigh	Low thigh (Well above knee cap)	Knee cap	Below knee cap
	Fishtail	Back of horizontal leg dry	Crotch level	Upper thigh	Mid thigh	Low thigh (Well above knee cap)	Knee cap	Below knee cap
	Ballet Leg Single	At top of thigh	Upper thigh	Mid thigh	Low thigh (Well above knee cap)	Above knee cap	Knee cap	Below knee cap
	Ballet Leg Double	Upper thigh	Mid thigh	Low thigh	Above knee cap	Knee cap	Below knee cap	Well below knee cap (mid shin)
	Eggbeater Kick Double Arm	Mid bust	Arm pit dry	Upper bust	Showing collar bone	Showing shoulder	Mid neck	Chin
	Eggbeater Kick Single Arm	Bust above surface	Mid bust	Arm pit dry	Upper bust	Showing collar bone	Showing shoulder	Mid neck
Dynamic Height	Thrust, Double Leg	Lower ribs or higher	Waist	Top of pelvis	Showing crotch	Upper thigh	Mid thigh	Above knee cap
	Thrust, Single Leg	Mid ribs	Lower ribs	Waist	Top of pelvis	Showing crotch	Upper thigh	Mid thigh
	Rocket Split, Airborne Split	Lower ribs or higher	Waist	Top of pelvis	Showing crotch	Upper thigh	Mid thigh	Above knee cap
	Boost (head up)	Crotch level or higher	Mid pelvis	Top of pelvis	Waist	Lower ribs	Arm pit	Showing shoulder

GUIDING SCALE FOR HEIGHT



GUIDING SCALE FOR SPLIT

Score range		Angle of Split (degree)			Water level
Excellent/ Near Perfect	**9.5**	180 (flat)			Crotch & legs dry
Very Good	**8.5**	170 - 180			Legs dry
Good	**7.5**	160 - 170			Legs almost dry
Competent	**6.5**	150 - 160			lower legs dry Crotch underwater
Satisfactory	**5.5**	130 - 140			lower legs dry Crotch underwater
Deficient	**4.5**	110 - 120			feet above the surface, legs under water
Weak	**3.5**	up to 100			feet come out vertically
Hardly recognisable	**0.1 – 2.9**	scissors			feet come out vertically

FIGURE PROGRESSION

Progression of positions and transitions from 12&Under to 13-15 age group:

Positions/Transitions	**12&Under**	**13-15**
	Straight Ballet Leg	Rio
Barracuda, Ballet Leg	Barracuda	Rio
Arch, Knight, Split	Walkover back	Ariana
Kip unroll, Vertical	Kip	Seagull
Pike, Submerged Double Ballet Legs, Surface Front Pike lift, Vertical Bent Knee closing	Water drop, Ballerina	Porpoise Continuous Spin/Albatross
Surface Arch Bent Knee, Knight, Vertical	Swan	Oceana/ Jupiter
Front Layout Bent Knee, Bent Knee Arch rotation	Swordfish	Swordtail

12&Under must master: Back and Front Layout, Bent Knee Back Layout, Ballet Leg, Barracuda unroll, split scull, Dolphin start, Surface Arch and Surface Arch Bent Knee, Vertical Bent Knee, Vertical, Split, Kip unroll, Pike to Submerged Double Ballet Leg rotation, Swordfish rotation.

13-15 must master: all 12&Under positions and transitions and Knight, 3 Splits, Continuous Spin, Twist, Descending 360 Spin, Fishtail, Fishtail to Vertical join, fast split opening, longer figures.

13-15 AGE DIVISION

423. ARIANA DD = 2.2

Figure Description:

A Walkover Back is executed to a **Split Position**. Maintaining the relative position of the legs to the surface, the hips rotate 180°. A *Walkout Front* is executed.

NVT:

						Total
NVT=	12.0	22.0	10.0	23.0	8.0	75
PV =	1.60	2.93	1.33	3.07	1.07	
			76%			
		29%	16%	30%		

Deductions:

Back Layout Position to Surface Arch Position	*Travel is as per the proposed FINA rule re deductions for travel		
Surface Arch to Split Position	Body forward up to 15 degrees from perpendicular in split position	Body forward 16-30 degrees from perpendicular in split position	Body forward 31 degrees or more from perpendicular
	Hips out of alignment 1-15 degrees from center point of horizontal axis	Hips out of alignment 1630 degrees from center point of horizontal axis torso rotated 16-30 degrees from perpendicular	Horizontal axis between legs in split not parallel to wall, torso rotated more than 30 degrees from perpendicular
Rotation from Split to Split	*See an angle chart for splits		
Split Position to Surface Arch Position	Body forward up to 15 degrees from perpendicular in split position	Body forward 16-30 degrees from perpendicular in split position	Body forward 31 degrees or more from perpendicular
Surface Arch Position to Back Layout Position	*Travel is as per the proposed FINA rule re deductions for travel		

Challenging part(s):

- Flexibility
- Surface Arch to first Split Position
- Ariana rotation
- Second Split to Surface Arch Position

Common mistakes:

- No Dolphin start
- Too much travel on the first leg
- Loss of height and/or hips under the water on beginning
- Not enough lower back arch when lifting the first leg
- Poor split flexibility, bent legs, hips under water, splits not square
- Legs moving sideways or above the water during Ariana rotation
- Loss of height during the walkout
- Too much travel towards the feet on the Surface Arch to Back Layout Position
- Movement of the legs is not continuous, too jerky

Suggested drills:

Land exercises for strength and flexibility:

- Land exercises to reinforce hamstrings and glute strength
- Land exercises to improve split, hips and lower back flexibility
- Handstand splits and knights (foot on wall), bridges
- Lower back exercises
- Shoulder flexibility for split scull and totem scull

For split scull technique and strength:

- Laps of split scull (work on both sides)
- Feet at the wall, lifting the leg from Surface Arch (working on both sides)
- Hips facing the wall, lifting the leg from Surface Arch (working on both sides)
- Trying to lift both legs from Surface Arch Position
- Practice lifting one leg and holding the most difficult part

For Knight and Split Positions:

- Knight Position at wall (foot on wall) and with bottles
- From Knight to Split Position with bottles

For splits:

- Ariana rotation with therabands
- Middle split facing the wall
- Middle split with partners pushing legs down

For Surface Arch to Back Layout Position transition:

- Surface Arch to Back Layout Position with feet at wall

Coaching recommendations and comments:

This figure requires a lot of flexibility and strength that needs to first be developed on land. There is no point in working on this figure in the water if the athlete does not have the skills on land. The land exercises should focus on developing range of motion for shoulders, lower back, hips and the 3 Split Positions as well as building strength in the upper back, glutes and legs in order to perform the beginning and end of the figure.

Land exercises for Ariana:

Shoulder flexibility: with a partner, work on shoulder and lower back flexibility. Whenever doing this exercise, use the "push and relax" technique to make it a dynamic exercise (push against the partner for 5-7 seconds, relax for 3 seconds and repeat). The version with the elbows bent focuses on shoulder and upper back flexibility.



For Surface Arch Position strength and the lift of the leg: the athlete pushes up to arch position. The athlete simultaneously engages the glutes to lift the feet off the ground. The athlete can do sets of arch presses and lifting the legs. On the last repetition, the athlete should hold the position and do leg kicks without the feet touching the ground.



On the knees, the athlete arches back all the way to the ground and returns to the starting position. Repeat.



In Supine position, the athlete lifts the legs as high as possible and then switches to the next leg (these are like kicks but with max. range of motion).



In a bridge position, one leg is extended towards the ground. The athlete lifts that leg as far as possible (max. split range of motion) and returns to the starting position. Repeat many times on both sides. This exercise can also be done in a handstand position with feet against the wall.


Standing, athlete performs arabesque kicks. Athlete lifts the back leg as high as possible without dropping the body forward. Return to the starting position. Repeat on both sides. This exercise can also be done holding the wall or a ballet barre.


Additional exercises for lower back strength and flexibility and split flexibility will be available in the Land Training Manual (to be released in December 2017).

Dolphin start: the athlete starts with two reverse torpedo actions before the head starts going under the water. The athlete should progressively arch back (just like a reverse unroll – one vertebrae at a time). A good way to do this is first the forehead, then the eyes, then the nose, the chin, the shoulder, the chest, belly button, hip bones, hips. The leg starts bending once the athlete has started to arch the lower back (stomach is going under). Once the leg starts bending, the athlete needs to think of the hips moving forward to align with the head and shoulder, not the whole body continuing to move forward.

Arm placement and sculling: the athlete starts in dolphin scull and switches to split scull when initiating the lift of the leg. During that lift, the body is vertical but the top arm of the split scull should be further past the vertical underneath the horizontal leg, with the palm facing down the pool. This is where shoulder flexibility is needed. The athlete should feel like they are trying to touch the knee of the horizontal leg. Just before the leg reaches the vertical (Knight Position), the athlete switches hands to support scull or totem scull (depending on their shoulder and back flexibility and strength). The Ariana rotation is done in active support scull (not just floating through the rotation). The walkout has the opposite sculling as done in the beginning. Athlete starts in support scull then switches to split scull just after the Knight Position. Some athletes with very good flexibility, square hips and strong totem scull may be able to do the lift and the closing (Knight to Surface Arch and Surface Arch to Knight Position) in totem scull.

Ariana Rotation: the athlete should continue to support scull during the splits and the rotation. This is not an area for resting. It is important that the athlete's hips are as close to the surface as possible and the legs as dry as possible to ensure the best score on the rotation. Coaches should pay attention to the legs lifting up or sideways. Watch this rotation from the sides and the end. Athlete should rotate one hip at a

time to avoid lifting the legs up: in left Split, to initiate the Ariana rotation, rotate the right leg out, then rotate the left leg to middle Split, then rotate the right leg and then the left leg. Ideally, the athlete should be fully square in the right and left Split. This is what coaches should aim for and why they must continue to focus on flexibility even if the athlete has three good Split Positions. The goal is flat Splits completely dry (hips and legs above the water). With this kind of height, the judges can really see if the legs are not square, it also impacts the body, the alignment of the Knight Position and the technique from the Knight to the Surface Arch Position. However, most athletes will have the back leg slightly open in the Split Position. Ensure that they rotate the back knee up before lifting the front leg to the walkout, while un-arching the back and bringing the shoulders in line.

Note that there is no middle Split Position in the description of this figure, so there should not be any pause in middle Split and the athletes should always be in motion rotating from one Split to the next. For improved smoothness we recommend to rotate one hip at a time starting with the back leg without stopping in the middle Split. This will stop the legs from popping up or the athletes to be in a straddle.

Walkout (Surface Arch to Back Layout Position): at the start of the walkout, the athlete needs to accelerate the support scull and strongly extend the front knee to lift the leg right above the water. At this point, the back of the buttocks (front leg) should be dry and above the water. The athlete needs to try to keep that leg dry all the way to the Surface Arch Position.

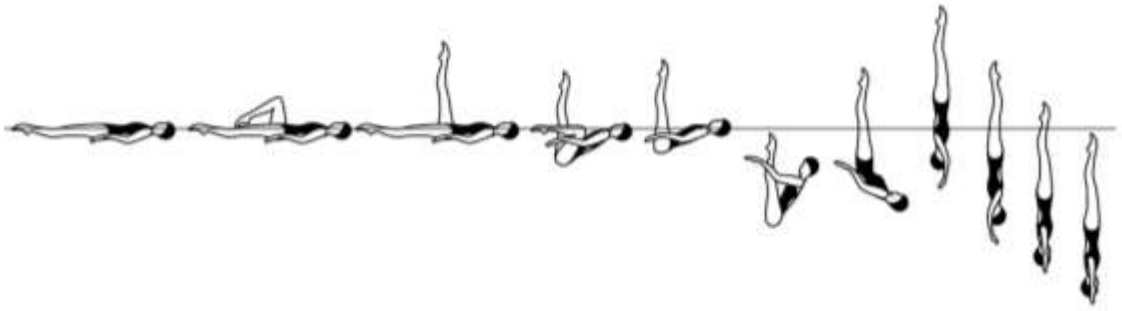
In the Surface Arch Position: the athlete should not only try to have the body vertical and the hips square, coaches should focus on legs and feet dry. From the toes to the hips, there should be no water washing over the top of the legs.

To go from Surface Arch to Back Layout Position: the athlete unrolls the back one vertebrae at a time (opposite motion to a barracuda unroll). The athlete should think of key body points reaching the surface one after another: belly button, ribcage, chest, shoulders, neck, chin, mouth, nose, eyes, forehead. The hands switch slowly from split scull to dolphin scull with very little movement. This motion can be done with the body only. The Back Layout Position should be finished with the arms overhead, make sure to hold the Back Layout Position at the end (a minimum of 2 counts).

143. RIO DD = 3.1 – *New figure*

Figure Description:

A Flamingo is executed to a **Surface Flamingo Position**. The horizontal leg is extended to a **Surface Ballet Leg Double Position**. The body submerges vertically to a **Back Pike Position** with the toes just under the surface. The figure is completed as a Barracuda Spin 360°.



NVT:

								Total
NVT=	10.5	11.0	13.0	13.0	15.0	31.0	30.0	123.5
PV =	0.85	0.89	1.05	1.05	1.21	2.51	2.43	

60% of total score

Deductions:

Figure / transition	Small Deviation	Medium Deviation	Large Deviation
Rio			
Bent Knee Position to Ballet Leg position	Leg up to 15 degrees from perpendicular	Leg 16 to 30 degrees from perpendicular	Leg 31 degrees or more from perpendicular
Double Ballet Leg to Submerged Back Pike position	Legs up to 15 degrees from perpendicular	Legs 16 to 30 degrees from perpendicular	Legs 31 degrees or more from perpendicular
Thrust	Legs up to 15 degrees from perpendicular	Legs 16 to 30 degrees from perpendicular	Legs 31 degrees or more from perpendicular
	Legs/Body up to 15 degrees from perpendicular in Vertical Position	Legs/Body 16 to 30 degrees from perpendicular in Vertical Position	Legs/Body 31 degrees or more rom perpendicular in Vertical Position
Spin 360	Legs/Body up to 15 degrees from perpendicular	Legs/Body 16 to 30 degrees from perpendicular	Legs/Body 31 degrees or more rom perpendicular

Challenging part(s):

- Flamingo to Double Ballet Leg Position
- Transition Double Ballet Leg to Submerged Back Pike Position
- Thrust (Submerged Back Pike to Vertical Position)

Common mistakes:

- Loss of height between Flamingo and Double Ballet Leg Position
- Difficulty submerging, loss of vertical line on the transition
- Not changing the lower back position from straight back to curve for the Back Pike Position
- Rocking on the Thrust (unroll)
- Not enough time to prepare with the new transition and finishing Thrust on the back
- Spin falls because Thrust was on the back

Suggested drills:

For the Ballet Leg/Flamingo/Double Ballet Legs:

- Laps of Ballet Leg/Flamingo/Double Ballet Legs (in all directions)
- Ballet Leg one foot at the wall
- Ballet Leg one foot at the wall and kickboard under the shoulders, or arms overhead holding kickboard
- With bottles
- Land exercises for glute strength and upper body strength

For the barracuda:

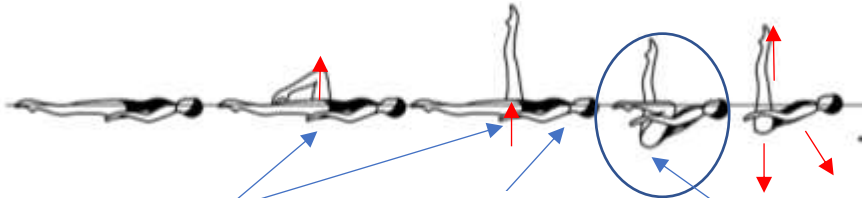
- Down the drain or unroll at the surface
- Back at the wall, holding the wall
- Unroll with bottles
- Double Ballet Leg presses up to feel the posterior pelvic tilt action

For the spin:

- Floating without hands
- Vertical press up + spin down (in both directions)

Coaching recommendations and comments:

Ballet Leg/Flamingo/Double Ballet Leg:
This figure requires a lot of strength for the Ballet Leg. Athletes need to have strong core, lower back and upper back strength in order to have the best horizontal extension possible. This also requires endurance to maintain vertical height in the Ballet Leg, Flamingo and Double Ballet Leg Position. Coaches should make the athletes do a lot of Ballet Leg and Double Ballet Leg lapsand endurance work. Core and glute land training for Ballet Leg is also key.



Hands should press down and the legs should pull towards the sky while the triangle pushes down to increase height and horizontal extension.

Use of the glute strength to support the scull work. Glute are squeezing to push the hips up.

The "Triangle" (shoulders, upper back, neck and head) and the palms of the hands press down in the water to improve horizontal extension.

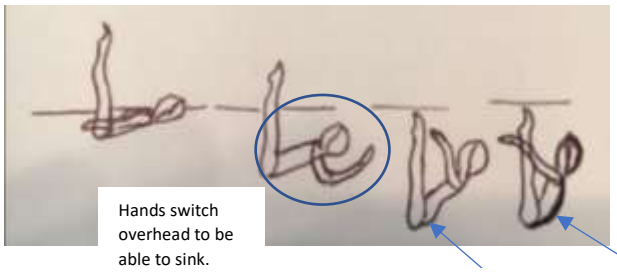
Although this image shows the flamingo at the knee level, we recommend NOT to drop to knee level and then to go back up in Double Ballet leg. Athlete should try to keep maximum height throughout by compacting the left leg on the chest.

Example of round back which limits the horizontal extension and height of Ballet Leg Position:

Examples of land exercises for glute strength and Ballet Leg Position:



Transition and preparation for the thrust: the athlete has to switch from sculling to gentle overhead torpedo in order to drop to a Submerged Back Pike Position. This will help the athlete switch from a straight back in the Double Ballet Leg to a rounded back in the Submerged Back Pike Position. Switching the arms overhead helps curve the whole spine which is key for the preparation of the Thrust. At the same time, move the body closer to the legs. When the athlete switches arms overhead, they need to be careful not to travel foot first.



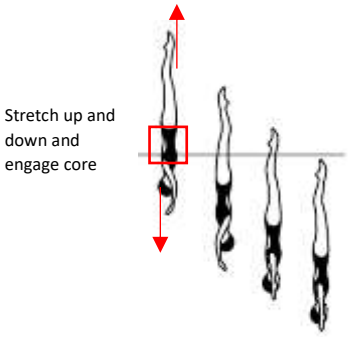
Barracuda: the athlete needs to start with the lower back rounded to prepare to unroll the spine to the Vertical Position. It is important to really focus on the unrolling technique of the back. This is not just a simple opening from the hips and the legs pushing back. There is no action of the legs, but simply an unroll of the body to align with the hips and the leg. If the athlete does not start with the lower back rounded, they will not be able to unroll and will very likely finish with the legs on the back. The unroll action includes a strong squeeze of the buttocks to go into posterior pelvic tilt and then an unroll of the back one vertebrae at a time all the way to the head. The head is the last thing to unroll. The athlete should stop the head movement once their eyes see the wall of the pool.

Down the drain:

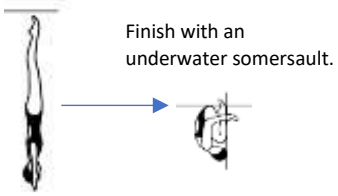
Arms and hand placement: in preparation for the Thrust, the athlete tries to be as compact as possible in the Submerged Back Pike Position. The arms are reaching back behind the legs just under the ankles. As

the athlete squeezes the glutes to initiate the posterior tilt and unroll action, the scull accelerates and becomes much stronger, grabbing the water as the elbows bend to press down on the water. It should feel like the legs are lifting through the hands with the hands remaining at the same level. The hands then follow the unroll of the body action, but should always stay on the sides of the body. If either the arms go forward or backward, the athlete is going to be unbalanced and will likely fall forward or backward on the vertical or the descent. When the athlete achieves the Vertical Position, the arms should be to the sides of the body with the upper back set, and the latissimus dorsi activated to block the arms from moving past the body line. The wrists & elbows should be slightly bent to continue to press on the water at the very end of the thrust press.

Spin: the spin action is initiated by a strong extension of the body in opposite directions to ensure the best vertical alignment possible. The head pulls down towards the bottom and the feet pull up through the ceiling/sky. During this "extension" action, the core muscles engage to stabilize the vertical alignment. To engage the core muscles, the athlete needs to feel the belly button pulling towards the spine and the top of the ribcage shortening down towards the pubic bone. Then the right shoulder, the right hip and the eyes will start the rotation to the left with the right elbow closing towards the body.



Ending: like any other figure ending in a Submerged Vertical, the athlete must hold the vertical under the water sideways to the judges, and then perform a submerged tuck to finish the figure cleanly.

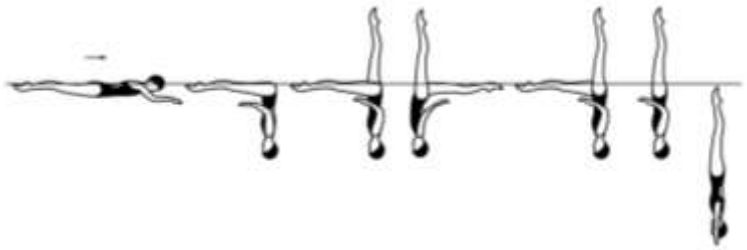


Video: This video only shows the beginning of the figure not the spin.
https://youtu.be/80R6PbTcvL4

351. JUPITER DD = 2.8

Figure Description:

A Dalecarlia is executed to a **Knight Position**. Maintaining the vertical alignment of the body, the horizontal leg is moved in a 180° arc at the surface of the water to a **Fishtail Position**. The horizontal leg is lifted to the **Vertical Position**. A *Vertical Descent* is executed.



NVT:

							Total
NVT=	6.0	14.5	31.0	18.0	20.5	14.0	104
PV=	0.58	1.39	2.98	1.73	1.97	1.35	

67%

Deductions:

Front Layout Position to Front Pike Position	*Travel is as per the proposed FINA rule re deductions for travel		
	Torso and head up to 15 degrees short or beyond perpendicular	Torso and head 16-30 degrees short or beyond perpendicular	Torso and head 31 degrees or more short or beyond perpendicular
Fishtail Position to Knight Position	Angle between legs closing or opening from 90 degrees less than 15 degrees	Angle between legs closing or opening from 90 degrees between 16 and 30 degrees	Angle between legs closing or opening from 90 degrees more than 30 degrees
Knight position to Fishtail position	Vertical leg up to 15 degrees from perpendicular	Vertical leg between 16 and 30 degrees from perpendicular	Vertical leg more than 30 degrees from perpendicular
Fishtail position to Vertical position	Vertical leg or body up to 15 degrees from perpendicular	Vertical leg or body 16 to 30 degrees from perpendicular	Vertical leg or body 31 degrees or more rom perpendicular
Vertical to submerged Vertical	Legs/Body up to 15 degrees from perpendicular	Legs/Body 16 to 30 degrees from perpendicular	Legs/Body 31degrees or more rom perpendicular

Challenging part(s):

- Fishtail to Knight Position
- Knight to Fishtail Position
- Fishtail to Vertical Position

Common mistakes:

- Travel to the Surface Front Pike Position (too much or not enough)
- Over pike on the lift to Fishtail Position
- Lose the 90 degree angle when switching from Fishtail to Knight Position
- Back leg in the Knight bent, rotated out and open to the side, not square position
- Loss of height between Fishtail and Knight Positions
- Vertical leg moving during the back-leg transition from Knight to Fishtail Position
- Loss of height and vertical alignment on the closing to Vertical Position
- Travel throughout the figure
- Loss of alignment on Vertical descent
- Poor extension and lower back flexibility in Knight

Suggested drills:

- Land exercises to develop strength and flexibility for the Knight Position
- Land exercises to strengthen the support scull and develop shoulder and rotator cuff flexibility
- Performing Pike Position in many different directions to ensure athlete understand this position: back at the wall, feet at the wall, Double Ballet Leg at the wall, back on the bottom of the pool, back flat at the surface feet facing the bottom of the pool, with bottles
- Perform Pike to Fishtail to Knight with the bottles
- Perform Fishtail to Vertical with the bottles
- Perform Pike to Fishtail lifting feet at the wall or back at the wall
- Perform transition from Fishtail to Knight with theraband between two feet to keep the same space and tension in the position.
- Stop and hold the hardest positions - midway from Fishtail to Knight Position, midway from Fishtail to Vertical Position.

Coaching recommendations and comments:

Note that this figure is fairly long from a breathing perspective for this age group and requires a lot support scull endurance. We recommend working on sets of Fishtail and Knight Position holds, building up the strength of the support scull and the athletes' breathing capabilities: 3x10 sculls each side, 3x15 sculls, 3x20 sculls… Repeat to build to 40 or 50 sculls (average duration of the figure). Always perform on both sides (including for the Knight Position).

Surface Front Pike Position: the athlete needs to make sure they get to the Surface Front Pike Position with a flat back, there is no rounded back from Front Layout to Front Pike Position. The action starts with the paddle scull grabbing the water but also with the hips bending and the chest pushing diagonally. The athlete needs to focus their eyes diagonally forward. They should not tuck their chin in and round their back. The transition from Front Layout to Surface Front Pike Position can be done with the body only and the athlete should do very little paddle.

The athlete starts with the head in front of the middle judge and finishes the action with the hips in front of the middle judge.

Athlete will transition from barrel scull to support scull after they have arrived in the Surface Front Pike Position. The transition is done with the elbows fairly close to the body and the hands under the thighs, not past the knee level under the shins.

Surface Front Pike to Fishtail Position: to keep the body vertical (and not forward with the lower back arched and the neck broken backwards), the athlete needs to keep the chin in to extend the back of the neck. The eyes need to look at the chest and the athlete has the feeling of stretching the spine down to the bottom of the pool. The athlete needs to focus on lifting their leg, without using their hands. They need to use their leg to lift, the arms are there only to support the action. It can start with one or two paddle sculls and then transition to support scull. Some athletes will do the whole action with support scull. The whole lift of the leg is done in support scull and should be done really smooth. Coaches should be giving the athletes visuals to make it more controlled: 1. Extend the legs, 2. Lift one heel above the other one, 3. Pull the leg forward and lift the heel above the water, etc.

The athlete should focus on making the semi-circle with the leg moving up longer and more stretched than the bottom leg (rainbow).

Towards the end of the lift, the athlete needs to think about pushing the hips slightly forward and stretching up. The feeling should be to open up the hip angle and to get the crotch and the horizontal leg above the water.

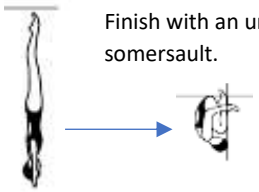
Support Scull: from the Surface Front Pike to the Vertical descent, the entire figure is done in support scull. At times, the speed of the scull or the placement of the arms and hands change to accommodate the position of the legs. In the Pike Position, the arms are right under the thigh in small short motions. In the Fishtail Position, the range of the scull increases to the sides and the speed is more controlled and smooth. To initiate the beginning of the Fishtail to Knight Position, the scull accelerates to maintain the height. In the Knight Position, the arms open up to the sides and back to support the weight being on the back leg more. During the transition, from the Knight to the Fishtail Position, the arms once again transition from the side and back, to more in the front. At the beginning of the lift, to close to Vertical, the support scull accelerates in a small motion right under the leg lifting up, to maintain the height.

Timing of Fishtail to Knight Position: the athlete should focus on the timing of the transition to ensure that the two legs arrive in the Knight Position at the same time. The athlete has to focus on stopping the back leg mid-point and not dropping it in the water. This requires activating the glute and focusing on the knee extension of the bottom leg.

Knight to Fishtail Position: if the athlete has square hips in the Knight Position, they will need to rotate the back leg out in order to start the transition. Then the foot of the back leg stretches as far out as possible to perform a long semi-circle at the surface. From the mid-point to the Fishtail, the leg slowly rotates to the knee facing the bottom of the pool in the Fishtail Position.

Vertical Descent: the Vertical should start mid-thigh or higher and the athlete should do 5 sculls before reaching the knees. At the floatation point, the athlete transitions from support scull to small scull on the sides of their bodies. A small athlete who has great buoyancy may have to finish the action with overhead barrel scull to ensure they disappear (including their toes) under the water.

Ending: like any other figure ending in a Submerged Vertical, the athlete must hold the Vertical under the water, sideway to the judges and then perform a submerged tuck to finish the figure cleanly.



437. OCEANEA DD = 2.1 – *New figure*

Figure Description:

A Nova is executed to a **Bent Knee Surface Arch Position**. The horizontal leg is lifted to the vertical as the bent knee is extended to assume a **Vertical Position**. A *Continuous Spin* of 720° (2 rotations) is executed.

NVT:

				Total
NVT=	17.5	21.0	31.0	69.5
PV =	2.52	3.02	4.46	

75% of total score

Deductions:

Back Layout Position to Bent Knee Surface Arch Position	*Travel is as per the proposed FINA rule re deductions for travel		
Surface Arch Position to Vertical Position	Before lift, Bent Knee up to 15 degrees from perpendicular	Before lift, Bent Knee between 16 and 30 degrees from perpendicular	Before lift, Bent Knee more than 30 degrees from perpendicular
Continuous Spin 720	Legs/Body up to 15 degrees from perpendicular	Legs/Body 16 to 30 degrees from perpendicular	Legs/Body 31 degrees or more rom perpendicular

Challenging parts:

- For 13 year olds: Continuous Spin is the most difficult
- For 14-15 year olds: the beginning to the Vertical Position is the most difficult
- In general: lift from Surface Arch Bent Knee to Vertical Position

Common mistakes:

- Not enough or too much travel in the Dolphin start
- Bent knee not vertical in Surface Arch Bent Knee
- Loss of height on the lift to Vertical Position
- Shoulders stay arched back in the Vertical Position
- Traveling back on the lift to Vertical Position
- Inaccurate number of spins down to the ankles
- Loss of core control during the spin
- Spin is too slow and drop spaces not even

Suggested drills:

For beginning and reverse torpedo:

- Laps of reverse torpedo

For the Surface Arch Bent Knee Position:

- Surface Arch at the wall, Surface Arch Bent Knee at the wall
- Vertical facing the wall lowering to Surface Arch Bent Knee Position
- Surface Arch Bent Knee with bottles
- Land exercises to improve lower back and hip flexibility
- Bridges
- Handstand Surface Arch on land (feet on the wall)
- Shoulder flexibility exercises

For the lift to Vertical Position:

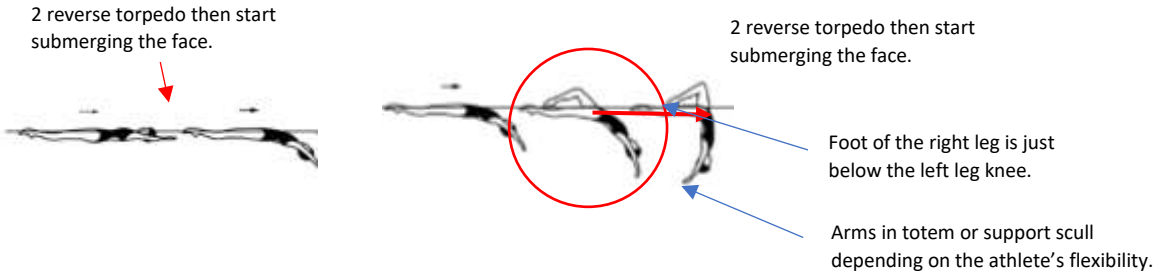
- At the wall, facing the wall
- With bottles
- Holding position in between Surface Arch Bent Knee and Vertical (at 45 degrees)

For the spin:

- Floating without hands
- Vertical press up + spin down (in both directions)

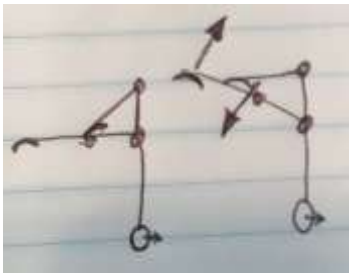
Coaching recommendations and comments:

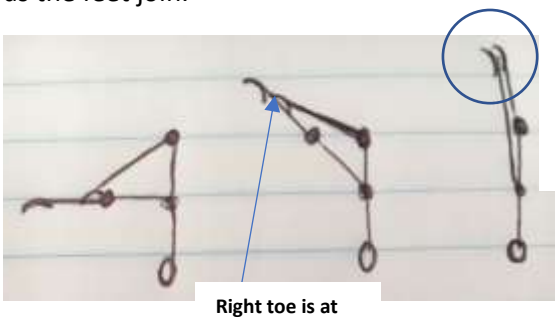
Dolphin start: the athlete starts with two reverse torpedo actions before the head starts going under the water. The athlete should progressively arch back (just like a reverse unroll – one vertebrae at a time). A best way to do this is first the forehead, then the eyes, the nose, the chin, the shoulder, the chest, belly button, hip bones, hips. The leg starts bending once the athlete has started to arch the lower back (stomach is just going under). Once the leg starts bending, the athlete needs to think of the hips moving forward to align with the head and shoulder, not the whole body continuing to move forward.



Knee alignment: the athlete should think about bending only to mid-shin, or under the knee, to achieve vertical alignment of the right thigh.

Surface Arch Bent Knee to the Vertical Position: the athlete initiates the lift of the legs in support scull. They should feel like they are falling backwards: the foot of the right leg should be pressing on the left leg while the left leg is intentionally pressing up. This would stop the athlete from pulling the right knee forward past the Vertical. On the second part of the lift, the athlete needs to concentrate on reaching up with the legs and un-arching the body to gain vertical alignment. This is achieved by bringing the elbows more in line with the body and the hands towards the center of the body. The right foot should be approximately at ankle level mid-way, and at the big toe's knuckle at 1 o'clock, so the legs only have to extend to reach the vertical at the same time as the feet join.





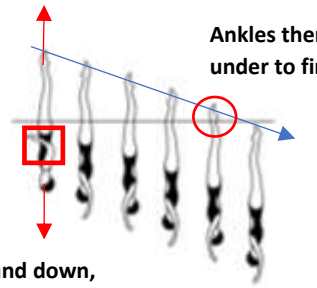
Scull and hand placement: this figure starts in reverse torpedo until when the chest is submerged. Then the athlete switches to split scull as the leg bends to the Surface Arch Position. As the athlete arrives at the Surface Arch Position, the hands switch to support scull. There are two hand options for the Surface Arch Position:

- If the athlete has good lower back flexibility, then this athlete can perform totem scull all the way until the Surface Arch Bent Knee Position and hold the position in totem scull. This athlete will initiate the lift by accelerating and pressing hard on the water in totem scull and then transitioning the hands slowly to a very wide support scull at the beginning of the lift.
- If the athlete has poor lower back flexibility, then this athlete will do split scull for as long as possible and switch to support scull to hold the position and initiate the lift.

All athletes will lift in wide support scull (with the elbows behind the body line) and will move the support scull more and more forward, and to the center, as they get to the vertical. The Vertical Position is held in support scull and the hands then transition to spin scull technique for the Continuous Spin.

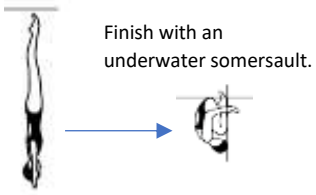
Spin: the spin action is initiated by a strong extension of the body in opposite directions to ensure the best vertical alignment possible. The head pulls down to the bottom of the pool and the feet pull up towards the sky/ceiling. During this "extension" action, the core muscles engage to stabilize the vertical alignment and the hands accelerate and press more on the water while transitioning to the spin scull technique. To engage the core muscles, the athlete needs to feel the belly button pulling towards the spine and the top of the ribcage shortening down towards the pubic bone. Then the right shoulder, the right hip and the eyes will start the rotation to the left simultaneously with the right elbow closing towards the body.

f) ***Continuous Spin:*** a *descending Spin* with a rapid rotation of: 720˚ (2), 1080˚ (3), or 1440˚ (4) which is completed as the ankles reach the surface and continues through submergence.



Level: the athlete has to do 2 full spins by the time they get to the ankle. They should be aware of their water level at spin 1 and at spin 2. Based on the athlete's vertical height, each spin should have an equal drop. For example, an athlete who starts at mid-thigh should drop to below knees for spin 1 and ankles for spin 2. From the ankle, the athlete needs to continue to spin down, approximately a half spin down under and another half under to finish in the same direction as they started and ensure they are fully submerged at the end.

Ending: like any other figure ending in a submerged vertical, athletes must hold the vertical under the water, sideway to the judges and then performed a submerged tuck to finish the figure cleanly.



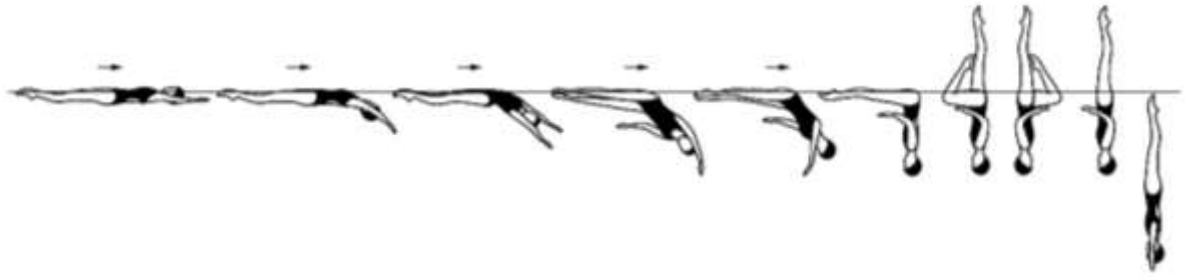
Videos:

https://youtu.be/-D_ytcFEpQo
https://youtu.be/oiW5w8V8LtQ
https://youtu.be/2QwGXyKL6P8
https://youtu.be/HXUv2jDf2EQ
https://youtu.be/HXUv2jDf2EQ
https://youtu.be/qilPDQA8Gxk
https://youtu.be/RWOJIXmVcGc
https://youtu.be/53KL2EfzFj4
https://youtu.be/qvMBRjnJ9L4
https://youtu.be/IeKM6-MNXeM
https://youtu.be/xAQIN7V8WCI

240a. ALBATROSS ½ TWIST DD = 2.2

Figure description:

With the head leading, a *Dolphin* is initiated until the hips are about to submerge. The hips, legs and feet continue to move along the surface, as the body rolls onto the face as it assumes a **Front Pike Position**. The legs are lifted simultaneously to a **Bent Knee Vertical Position**. A *Half Twist* is executed. The designated *Twist* is executed as the bent knee is extended to meet the vertical leg. A *Vertical Descent* is executed.



NVT:

						Total
NVT=	11.0	15.0	15.0	16.5	14.0	71.5
PV =	1.54	2.10	2.10	2.31	1.96	

65%

Deductions:

Back Layout Position to Front Pike Position	*Travel is as per the proposed FINA rule re deductions for travel		
Pike Position to Vertical Bent Knee Position	Body up to 15 degrees from perpendicular	Body between 16 and 30 degrees from perpendicular	Body over 31 degrees from perpendicular
Twists	Vertical leg up to 15 degrees from perpendicular	Vertical leg between 16 and 30 degrees from perpendicular	Vertical leg more than 30 degrees from perpendicular
Vertical to submerged Vertical	Legs/Body up to 15 degrees from perpendicular	Legs/Body 16 to 30 degrees from perpendicular	Legs/Body 31 degrees or more rom perpendicular

Challenging part(s):

- Surface Front Pike to Vertical Bent Knee Position lift
- Half Twist
- Half Twist closing

Common mistakes:

- Travel throughout the figure
- No Dolphin start
- Overpike on the lift to Vertical Bent Knee Position
- Travel during the two twist
- Timing of the closing
- Loss of vertical alignment
- Loss of height on transitions and twist

Suggested drills:

- Laps of dolphin scull for beginning
- Front Pike to Vertical Bent Knee Position at wall or with bottles
- Sets of support sculls
- Vertical with bottles
- Vertical Bent Knee to Vertical Position with bottles, or at wall

Coaching recommendations and comments:

Dolphin start: the athlete starts with two reverse torpedo actions before the head starts to go under the water. The athlete should progressively arch the back (just like a reverse unroll – one vertebrae at a time). A good way to do this is first the forehead, then the eyes, the nose, the chin, the shoulder, the chest. Once the chest is under the water, the athlete starts rotating to the side with one hip at the surface. The arms go from dolphin scull to side split scull to paddle once the athlete gets to the Surface Front Pike Position. Throughout this transition the athlete must keep the back straight, and not rounded. The athlete starts with the head in front of the middle judge and finishes the action with the hips in front of the middle judge.

Note that in this figure, coaches may decide strategically to have the athlete rotate towards the judges for the beginning to the pike and again towards the judges for the twist to minimize travel.

Surface Front Pike to Vertical Bent Knee Position: to keep the body vertical (and not forward with the lower back arch and the neck broken backwards), the athlete needs to keep the chin in to extend the back of the neck. The eyes need to look at the chest and the athlete should have the feeling of stretching the spine down to the bottom of the pool. The athlete needs to focus on lifting their leg, without using their hands. They need to use their leg to lift, the arms are there only to support the action. It can start with one or two paddle sculls and then transition to support scull. Some athletes will do the whole action with support scull. The whole lift of the leg should be very smooth. The thigh of the bent leg should be the reference at the surface and not bend underwater. The athlete should focus on making the semi-circle (rainbow) with the leg moving up longer and more stretched than the bent leg. Coaches should also ask the athlete to keep the height throughout - start with buttocks dry and maintain that height through the Vertical Bent Knee Position.

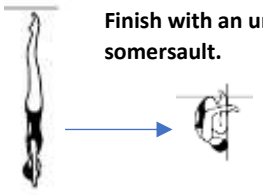
Support Scull: from the Surface Front Pike to the Vertical descent, the entire figure is done in support scull. At times, the speed of the scull or the placement of the arms and hands change to accommodate the position of the legs. In the Surface Front Pike Position, the arms are right under the thighs in small short motions. In the Vertical Bent Knee Position, the range of the scull increases to the sides and the speed is more controlled and smooth. During the rotations, the athlete focuses on using the body for the rotation more than the arms. The head, right shoulder and hips initiate the rotation with the right arm closing in to the other arm. To initiate the beginning of the Vertical Bent Knee to Vertical Position, the scull accelerates to maintain the height.

In the Vertical Bent Knee Position, the bent leg does not have to have the thigh horizontal but can be further bent to increase possible height. If using this technique, then the coach needs to make sure that the athlete does not bring the underwater water during the lift of the leg, but only at the very end when reaching the Vertical Position.

Twist: the athlete needs to focus on a smooth scull, alignment of head, body, hips and legs and the timing of the closing so that the toes close to Vertical Position at the same time as the body faces the side. In the closing from Vertical Bent Knee to Vertical, at the quarter mark, the bent leg should be at the ankle of the other leg. At the 1/7th mark, the toe of the bent leg should be at the knuckle of the vertical leg so that the athlete only has a tiny movement to finish the closing and the rotation.

Vertical Descent: Vertical Position should start mid-thigh or higher and the athlete should try for 5 sculls before reaching the knees. At the floatation point, the athlete transitions from support scull to small scull on the sides of their bodies. A small athlete who has great buoyancy may have to finish the action with overhead barrel scull to ensure they disappear (including their toes) under the water.

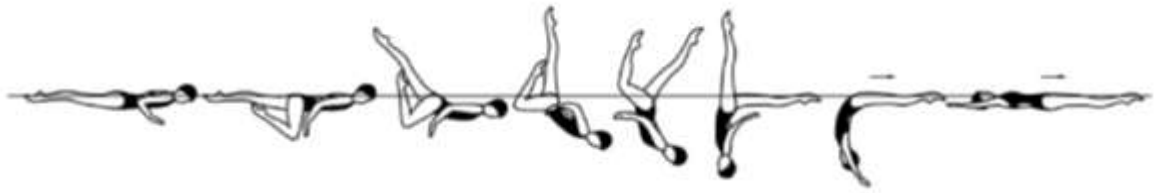
Ending: like any other figure ending in a submerged Vertical, the athlete must hold the Vertical under the water, sideways to the judges and then performed a submerged tuck to finish the figure cleanly.



403. SWORDTAIL DD = 2.3 – *New figure*

Figure Description:

From a **Front Layout Position** the **Bent Knee Position** is assumed. The back arches more as the extended leg is lifted in an arc of 180° over the surface of the water. As the extended leg passes vertical, the bent leg straightens with the foot following a vertical line to assume a **Knight Position**. The vertical leg is lowered to a **Surface Arch Position**. An *Arch to Back Layout Finish Action* is executed.



NVT:

						Total
NV=	4.0	29.0	20.0	18.5	8.0	79.5
PV =	0.50	3.65	2.52	2.33	1.01	

60% of total score

Deductions:

Bent Knee Arch to Knight Position	Foot/leg up to 15 degrees from perpendicular as it is lifted to knight	Foot/leg between 16 and 30 degrees from perpendicular as it is lifted to knight	Foot/leg more than 30 degrees from perpendicular as it is lifted to knight
Knight Position to Surface Arch Position	Body out up to 15 degrees	Body out 16 to 30 degrees	Body out 31 degrees or more
Surface Arch Position to Back Layout Position	*Travel is as per the proposed FINA rule re deductions for travel		

Challenging parts:

- Lift of the leg in the beginning of the figure
- Bent knee arch transitional position
- Opening to the Knight Position

Common mistakes:

- Loss of height at the beginning with the hips sinking too much
- Breaking the neck line too much
- Pike instead of gradually arching in the beginning of the figure
- Travel foot first in the beginning of the figure
- Opening the leg on the face to go to Knight Position
- Poor control and stability

Suggested drills:

For the beginning:

- Laps of paddle scull and support scull
- Laps of paddle scull with the back leg just above the water
- Land exercises to strengthen glutes and lower back
- With a partner, lifting the foot off of a partner's hand

For the middle part:

- With the bottles
- Holding the most difficult position in the middle

For the Surface Arch Bent Knee to Knight Position:

- With the bottles
- Holding the wall, facing the wall
- On land at wall bars

For the end:

- Improve back flexibility on land
- Knight handstand (foot on wall)
- Knight at wall (foot on wall)
- Surface arch at wall (feet on wall)
- Knight to Surface Arch with bottles

Coaching recommendations and comments:

Glute Strength, lower back and hip flexibility: the beginning of this figure requires an important amount of glute strength. Without the glute strength, the athlete will rely on scull and arm strength to stay closer to the surface. The following exercises are examples of land exercises to improve glute strength:


1

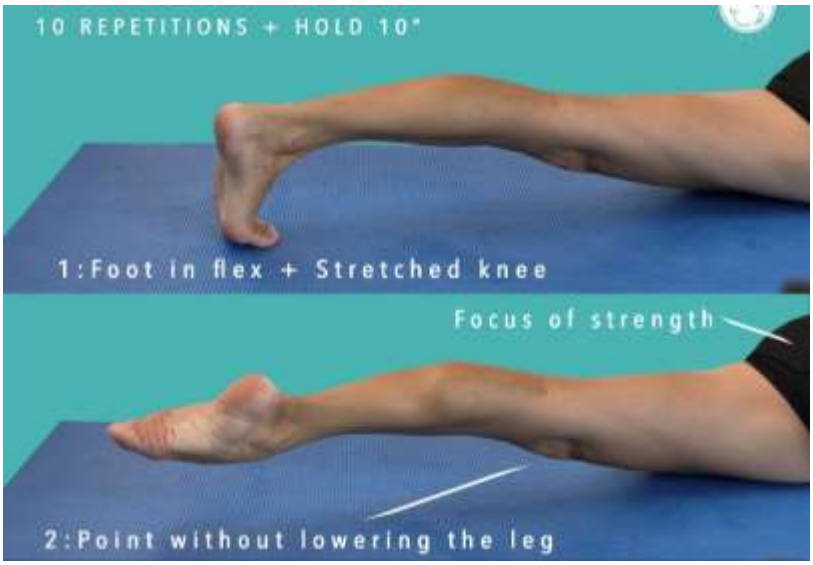

2


3


4


5


6



Sculling: the athlete starts with a couple of paddle sculls to initiate the action, then switches to support scull and opens the scull wider as they progressively arch the body. During the opening and in the Knight Position the support scull is very wide. The athlete then switches to split scull from Knight to Surface Arch Position, and then to reverse torpedo for the very end of the figure.

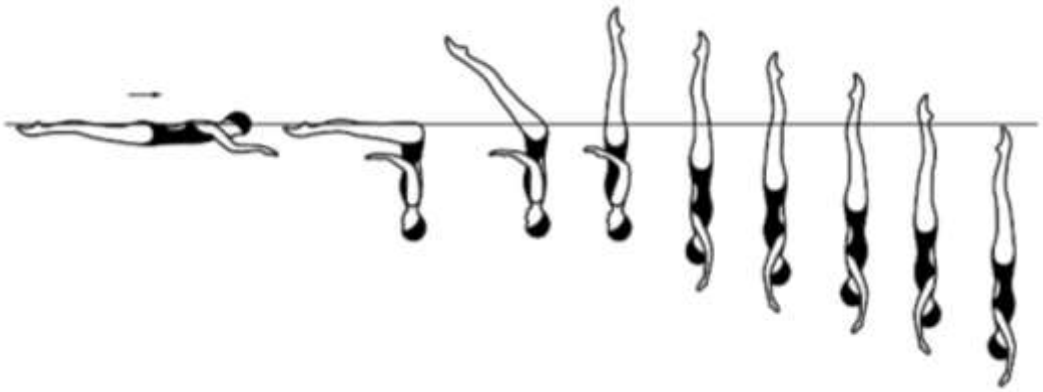
Timing: the timing in this figure is critical. Coaches have to work with each athlete individually to assess when they need to switch from paddle to support scull and to control the timing of the Surface Arch Bent Knee to Knight Position opening. The athlete needs to feel that the left leg stops at the vertical and then the right leg, while extending to vertical, is also pushing the left leg to the horizontal. As an exercise, you can encourage the athlete to keep the contact between the right leg and the left leg longer so that the athlete does not open onto their face.

Videos:

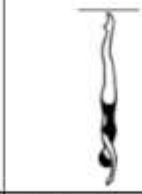
https://youtu.be/TsPlD0HW0lQ

355f. PORPOISE CONTINUOUS SPIN 720° DD = 2.1

Figure description:
A Porpoise is executed to **Vertical Position**. A *Continuous Spin 720°* is executed.



NVT:

				Total
NVT=	6.0	33.0	31.0	70
PV =	0.86	4.71	4.43	
		47%	44%	

Deductions:

Front Layout Position to Front Pike Position	*Travel is as per the proposed FINA rule re deductions for travel		
	Torso and head up to 15 degrees short or beyond perpendicular	Torso and head 16-30 degrees short or beyond perpendicular	Torso and head 31 degrees or more short or beyond perpendicular
Front Pike Position to Vertical Position	Body up to 15 degrees from Perpendicular	Body between 16 and 30 degrees from Perpendicular	Body more than 30 degrees from Perpendicular
Continuous Spin	Legs/Body up to 15 degrees from perpendicular	Legs/Body 16 to 30 degrees from perpendicular	Legs/Body 31 degrees or more rom perpendicular

Challenging part(s):

- Porpoise lift
- Continuous Spin

Common mistakes:

- Travel throughout the figure
- Overpike on the Surface Front Pike to Vertical transition
- Loss of height on the Surface Front Pike to Vertical transition
- Irregular spin or levels
- Lack of speed on the spin
- Not enough rotations before the ankles
- Poor leg extension
- Lack of vertical alignment

Suggested drills:

- Performing the Pike Position in many different directions to ensure athlete understand this position: back at the wall, feet at the wall, Double Ballet Leg at the wall, back on the bottom of the pool, back flat at the surface feet facing the bottom of the pool, with bottles
- Perform Surface Front Pike to Vertical Position with bottles or at the wall
- Stop and hold the hardest positions: midway from Surface Front Pike to Vertical Position

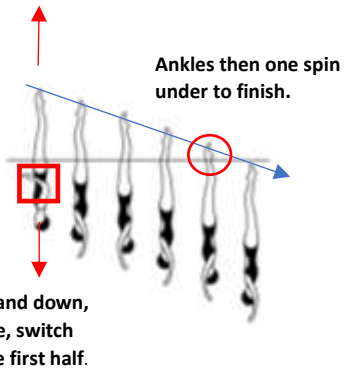
Coaching recommendations and comments:

Surface Front Pike Position: athlete needs to make sure they get to the Surface Front Pike Position with a flat back. There is no round back from Front Layout to Surface Front Pike Position. The action starts with the paddle scull grabbing the water but also with the hips bending and the chest pushing diagonally. The athlete needs to focus their eyes diagonally forward. They should not tuck their chin in and round their back. The transition from Front Layout to Surface Front Pike Position can be done with the body only and the athlete should do very little paddle.

The athlete starts with the head in front of the middle judge and finishes the action with the hips in front of the middle judge.

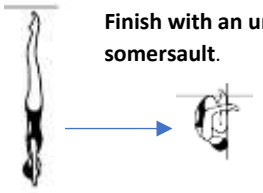
Spin: the spin action is initiated by a strong extension of the body in opposite directions to ensure the best vertical alignment possible. The head pulls down to the bottom of the pool and the feet pull up towards the sky/ceiling. During this “extension” action, the core muscles engage to stabilize the vertical alignment and the hands accelerate and press more on the water while transitioning to the spin scull technique. To engage the core muscles, the athlete needs to feel the belly button pulling towards the spine and the top of the ribcage shortening down towards the pubic bone. Then the right shoulder, the right hip and the eyes will start the rotation to the left simultaneously with the right elbow closing towards the body.

f) ***Continuous Spin:*** a *descending Spin* with a rapid rotation of: 720˚ (2), 1080˚ (3), or 1440˚ (4) which is completed as the ankles reach the surface and continues through submergence.



Level: the athlete must complete 2 spins by the time they get to the ankle. They should be aware of their water level at spin 1 and at spin 2. Based on the athlete's vertical height, each spin should have an equal drop. For example, an athlete who starts at mid-thigh should drop to below knees for spin 1 and ankles for spin 2. From the ankle, the athlete needs to continue to spin down, approximately a half spin down under and another half under to finish in the same direction as they started and to ensure they are fully submerged at the end.
Note that the spin tempo should be noticeably faster than the rest of the figure. Coaches can start working on a moderate tempo and build up the speed as the athlete gets better.

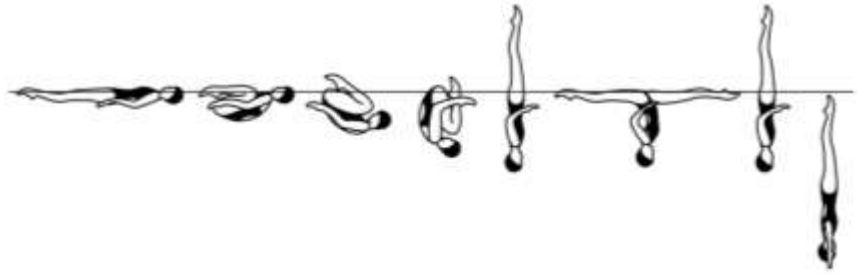
Ending: like any other figure ending in a submerged Vertical, the athlete must hold the Vertical under the water, sideway to the judges and then perform a submerged tuck to finish the figure cleanly.



315. SEAGULL DD = 2.1 – *New figure*

Figure Description:

From a **Back Layout Position**, a partial Somersault Back Tuck is executed until the shins are perpendicular to the surface of the water. The trunk unrolls rapidly as the legs are straightened to assume a **Vertical Position** midway between the former vertical line through the hips and the former vertical line through the head and the shins. The legs are lowered rapidly symmetrically to **Split Position**. The legs are joined rapidly to resume **Vertical Position**. A Vertical Descent is executed at the same tempo as the initial actions of the figure.



NVT:

							Total
NVT=	3.0	2.0	18.0	17.0	16.0	14.0	70
PV =	0.43	0.29	2.57	2.43	2.29	2.00	
			25%	24%	22%	20%	
			90% of total score				

Deductions:

Tuck to Inverted Tuck Position	Shins up to 15 degrees from Perpendicular	Shins between 16 and 30 degrees from Perpendicular	Shins more than 30 degrees from Perpendicular
	Legs/Body up to 15 degrees from perpendicular in Vertical Position	Legs/ Body between 16 and 30 degrees from perpendicular in Vertical Position	Legs/Body more than 30 degrees from perpendicular in Vertical Position
Vertical Position to Split Position	*See an angle chart for splits		
To Vertical Position	Legs/Body up to 15 degrees from Perpendicular	Legs/ Body between 16 and 30 degrees from Perpendicular	Legs/Body more than 30 degrees from Perpendicular
Vertical and Vertical Descent	Legs/Body up to 15 degrees from Perpendicular	Legs/ Body between 16 and 30 degrees from Perpendicular	Legs/Body more than 30 degrees from Perpendicular

Challenging parts:

- Fast unroll from Tuck to Vertical Position
- Keeping the height from Vertical to Split to Vertical Position
- Catching the support scull from Tuck to Vertical/Split/Vertical
- Maintaining the height on the last vertical and controlling the slow descent

Common mistakes:

- Unroll on back
- Not enough split opening, back leg rotates out too much
- Loss core control through the split opening
- Loss of height on the last vertical
- Uncontrolled descent

Suggested drills:

For the rotation:

- With bottles

For the Kip unroll (Tuck to Vertical):

- With bottles
- Facing the wall

For the opening , Vertical to Split to:

- With bottles
- From ankles press up to Vertical and Split

Coaching recommendations and comments:

This is a very short figure, very unbalanced with the majority of the points coming from the last 10 seconds of the figure. It is important to focus on alignment, control and accuracy of positions on the key 3 positions: Vertical/Split/Vertical.

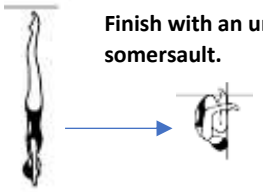
Sculling: on this figure, the type of sculling depends on the level of the athlete. As a general guideline, we recommend support scull from the first Vertical to the end. But an athlete who has very good totem scull might be able to press to totem and hold it until the end of the figure. This is only possible if the athlete has very good totem to be able to hold the Vertical Position mid-thigh, at minimum, and has very good core control to maintain stability and control throughout the figure.

Hand placements: for Back Layout to the inverted Tuck Position the hands are going to move from standard scull on the side of the body to very light support scull on the side of the shins with the hands in the front of the shins. The athlete will need to accelerate the scull and intensify the grab of the water just before initiating the Kip unroll. Once they reach the Vertical Position, the support scull should have opened to the sides to prepare for the split move and the hands should move back closer to the body, and slightly in front of the body, for the last Vertical Position hold. The hands then transition very slowly from support scull to scull to the sides of the body, and eventually over the head at the end of the Vertical descent.

Body Placement: the placement of the hips is key for this figure. With the Kip unroll now being done fast, the athlete has to focus even more on hip movement forward to align with the head and feet. In addition, the athlete needs to keep their core activated throughout the figure including when opening the legs to splits. They must not let go of the core and hips, or the body will open up to the side and the tummy will be relaxed and arch and it would be difficult to recover the vertical after that.

Flexibility and extension: flexibility is essential in this figure, not only to show a good split, but also to show great extension in the Vertical and Split Positions (feet, ankle and knees). It is important to know that the Split Position must be a "surface" split as opposed to an Airborne Split Position.

Ending: like any other figure ending in a submerged vertical, the athlete must hold the vertical under the water, sideway to the judges and then perform a submerged tuck to finish the figure cleanly.



Finish with an underwater somersault.

12&UNDER AGE DIVISION

106. STRAIGHT BALLET LEG DD = 1.6 – *New figure*

Figure Description:
From a **Back Layout Position**, one leg is raised straight to a **Ballet Leg Position**. The *Ballet Leg is lowered*.

NVT:

				Total
NVT=	18.5	11.0	10.5	40
PV =	4.63	2.75	2.63	

74%

Deductions:

Back layout to ballet leg	BL is 15 degrees short of/or beyond perpendicular	BL is 16 - 30 degrees short of/ or beyond perpendicular	BL is 31 degrees or more. short of/or beyond perpendicular
Ballet leg to Bent Knee Back Layout Position	As leg bends, thigh is 115 degrees from perpendicular	As leg bends, thigh is 16-30 degrees from perpendicular	As leg bends, thigh is 31 degrees or more from perpendicular

Challenging parts:

- Maintaining height in the middle of straight leg lift
- Beginning lift of the leg
- Holding height and vertical alignment (Ballet Leg to Bent Knee Position)

Common mistakes:

- Piked hips in the middle of the straight leg lift
- Head lifting up when lifting the leg
- Travel (back and forward)

Suggested drills:

- Land exercises for back strength, core and glutes
- Perform laps of Back Layout, Bent Knee Back Layout and Ballet Legs

- Ballet Legs at wall with no arms
- Ballet Legs with bottles
- Feet at the wall with body so extended that the head is slightly under the water to understand the feeling of full extension
- Perform feet at the wall with a kickboard under the shoulder or overhead, to work on upper body strength
- Front Layout Position with entire back of the body dry, Ballet Leg facing the bottom of the pool.

In a group of 3 people: one person does the Ballet Leg, one person holds the foot, one person holds the head. Two people in eggbeater pull the body of the athlete lengthwise, the athlete performing the Ballet Leg should barely use their scull (can make a circuit for this).

Coaching recommendations and comments:

Land training:
Examples of land exercises for glute strength and Ballet Legs:





Back Layout Position: athlete needs to focus on presenting a perfect Back Layout Position with the hips in line with the middle judge. “Perfect Back Layout Position” means full extension of the body and legs, with the upper part of the body completely dry and no water washing over the athlete. The shoulders should be flat and set, not rounded.

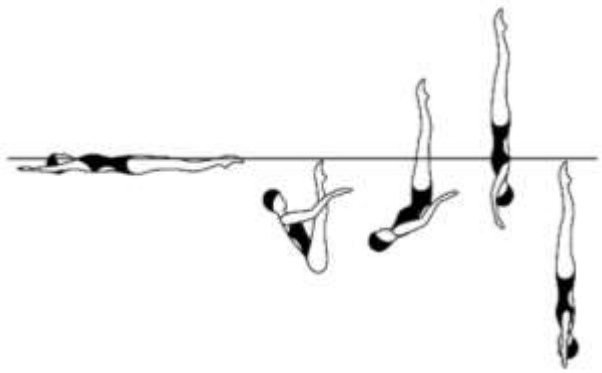
Ballet Leg: Back Layout Position: athlete needs to focus on presenting a perfect Back Layout Position with the hips in line with the middle judge. “Perfect Back Layout Position” means full extension of the body and legs, with the upper part of the body completely dry and no water washing over the athlete. The shoulders should be flat and set, not rounded.

This figure requires a lot of strength for the Ballet Leg. The athlete needs to have strong core, lower back and upper back strength in order to have the best horizontal extension possible. This also requires endurance to maintain vertical height in the Ballet Leg. Coaches should make the athletes do a lot of Ballet Leg and Double Ballet Leg laps and endurance work. Core and glute land training for Ballet Leg is also key.

301. BARRACUDA DD = 1.9

Figure description:

From a **Back Layout Position**, the legs are raised to a vertical as the body is submerged to a **Back Pike Position** with the toes just under the surface. A Thrust is executed to a **Vertical Position**. A *Vertical Descent* is executed at the same tempo as the Thrust.



NVT:

				Total
NVT=	10.0	31.0	15.0	56
PV =	1.79	5.54	2.68	
		55%		

Deductions:

Back Layout to submerged Back Pike Position	Legs up to 15 degrees from perpendicular	Legs 16 to 30 degrees from perpendicular	Legs 31 degrees or more from perpendicular
Thrust	Legs up to 15 degrees from perpendicular	Legs 16 to 30 degrees from perpendicular	Legs 31 degrees or more from perpendicular
Vertical position	Legs/Body up to 15 degrees from perpendicular	Legs/Body 16 to 30 degrees from perpendicular	Legs/Body 31 degrees or more rom perpendicular
Vertical descent	Legs/Body up to 15 degrees from Perpendicular	Legs/ Body between 16 and 30 degrees from Perpendicular	Legs/Body more than 30 degrees from Perpendicular

Challenging part(s):

- Barracuda unroll (Thrust)

Common mistakes:

- Open bodies, not unrolling, not using hips
- Legs on back
- Using body to move faster

Suggested drills:

For the Thrust:

- Down the drain or unroll at the surface
- Back at the wall, holding the wall
- Unroll with bottles
- Double Ballet Leg pressing up to feel the posterior pelvic tilt action

Coaching recommendations and comments:

Back Layout Position: athlete needs to focus on presenting a perfect Back Layout Position with the hips in line with the middle judge. "Perfect Back Layout Position" means full extension of the body and legs, with the upper part of the body completely dry and no water washing over the athlete. The shoulders should be flat and set, not rounded. For this figure, the Back Layout starts with the arms overhead in dolphin scull, this provides a more extended impression and will slow the sinking of the hips.

The Submerged Back Pike Position should be right under the surface no more than 6 inches, and ideally just below the surface (make sure the toes are under). Judges will deduct points for those athletes who are too deep or not totally submerged.

Barracuda unroll (Thrust):
Athletes need to do a lot of land work for the unrolling action in order to understand how to use the hips and control this motion. Coaches can have the athlete use the pool in all directions: legs towards the bottom of the pool, at the surface - front and back, to perform body unroll. Athletes can also do unrolls on land, standing or laying on the ground.

It is important to perform this motion slowly at first to understand the hip movement, before starting to increase the speed. Make sure to have the right action, and body control, before increasing the speed. The athlete needs to think of performing the barracuda unroll in an "elevator" motion not "escalator" motion. The legs do not open up on the back but rather just stay where they are while the body unrolls underneath.

To reinforce athlete's upper body strength during the unroll, they can do the unroll with a theraband and add tricep exercises at the end of the unroll.

Hands and Arms: The hands start close to mid-shin and then grab the water behind legs at the very beginning of the move, then press down and grab even more water. The hands make a big circle behind the hips as the hips unroll. Open the hands to the sides (not crossed in front of face, not in front of body, not too close to the ears) and then press to the sides. There is no shortcut for this move and the athlete

must learn the correct technique before increasing the speed. The palms at the end should be facing the bottom of the pool. The pressure on the palms happens at the same time as the end of the unrolling (shoulders and head). There is an acceleration of the arms at the very end. In general, the whole unroll is very fast and increased speed at the very end.

420. WALKOVER BACK DD = 1.9

Figure Description:

With the head leading a *Dolphin* is initiated. The hips, legs and feet continue to move along the surface as the back is arched more to assume a **Surface Arch Position**. One leg is lifted in a 180° arc over the surface to a **Split Position**. A *Walkout Back* is executed.

NVT:

						Total
NVT=	12.0	22.0	19.0	6.0		59
PV =	2.03	3.73	3.22	1.02		
	20%	90% 37%	32%			

Deductions:

Dolphin start to Surface Arch Position	*Travel is as per the proposed FINA rule re deductions for travel		
Surface Arch Position to Split Position	*See an angle chart for splits		
	Body forward up to 15 degrees from perpendicular in split position	Body forward 16-30 degrees from perpendicular in split position	Body forward 31 degrees or more from perpendicular
	Hips out of alignment 1-15 degrees from center point of horizontal axis	Hips out of alignment 1630 degrees from center point of horizontal axis torso rotated 16-30 degrees from perpendicular	Horizontal axis between legs in split not parallel to wall, torso rotated more than 30 degrees from perpendicular
Split to Front Pike Position	Body forward from perpendicular up to 15 degrees during transition to pike	Body forward from perpendicular between 16 and 30 degrees during the transition to pike	Body forward from perpendicular 31 degrees or more during the transition to pike
Front Pike Position to Front Layout Position	*Travel is as per the proposed FINA rule re deductions for travel		

Challenging part(s):

- Dolphin beginning and Surface Arch Position
- Control of the end and accuracy of positions and travel
- Split flexibility

Common mistakes:

- Dolphin start
- Hips under water and height at the beginning
- Hips opened on the Split Position and body not aligned
- Rounded back at the end to unroll, rather than flat back from Surface Front Pike to Front Layout
- Too much travel at the beginning and the end

Suggested drills:

- Land exercises for shoulder, lower back and split flexibility
- Laps of split scull
- Split scull with feet at wall
- Split to Fishtail Position to Surface Front Pike with bottles
- Split facing the wall closing to the pike
- Surface Arch to Knight both side with split scull
- Surface Arch to Vertical, both legs at once to work on totem scull
- Split with theraband

Coaching recommendations and comments:

This figure requires a lot of flexibility and strength that needs to be developed on land. There is no point working on this figure in the water if the athlete does not have the skills on land. The land exercises should focus on developing range of motion for shoulders, lower back, hips and split as well as building strength in the upper back, glute and legs in order to perform the beginning of the figure.

Land exercises:

Shoulder flexibility: with a partner, work on shoulder and lower back flexibility. Whenever doing this exercise, use the “push and relax” technique to make it a dynamic exercise (push against the partner for 5-7 seconds, relax for 3 seconds and repeat). The version with the elbows bent focuses on shoulder and upper back flexibility.

For surface arch strength and the lift of the leg: athlete pushes up to arch position. The athlete simultaneously engages the glutes to lift the feet off the ground. The athlete can do sets of arch presses and lifting the legs and on the last repetition, the athlete should hold the position and start doing leg kicks without the feet touching the ground.



On the knees, the athlete arches back all the way to the ground and returns to the starting position. Repeat.



In Supine position, the athlete lifts the legs as high as possible and then switches to the next leg (these are like kicks but with max. range of motion).



In a bridge position, one leg is extended towards the ground. The athlete lifts that leg as far as possible (max. split range of motion) and returns to the starting position. Repeat many times on both sides. This exercise can also be done in a handstand position with feet against the wall.


Standing, athlete performs arabesque kicks. Athlete lifts the back leg as high as possible without dropping the body forward. Return to the starting position. Repeat on both sides. This can also be done holding the wall or a ballet barre.


Additional exercises for lower back strength and flexibility and split flexibility will be available in the Land Training Manual (to be released in December 2017).

Dolphin start: the athlete starts with two reverse torpedo actions before the head starts going under the water. The athlete should progressively arch back (just like a reverse unroll – one vertebrae at a time). A good way to do this is first the forehead, then the eyes, the nose, the chin, the shoulder, the chest, belly button, hip bones, hips. The leg starts lifting once the athlete has started to arch the lower back (stomach is just going under).

Arm placement and sculling during the first part: athlete starts in dolphin scull and switches to split scull when initiating the lift of the leg. During that lift, the body is vertical but the top arm of the split scull should be further past the vertical underneath the horizontal leg with the palm facing down the pool. This is where shoulder flexibility is needed. The athlete should feel that they are trying to touch the knee of the horizontal leg. Just before the leg reaches the vertical (Knight Position), the athlete switches hands to support scull or totem scull (depending on their shoulder and back flexibility and strength).

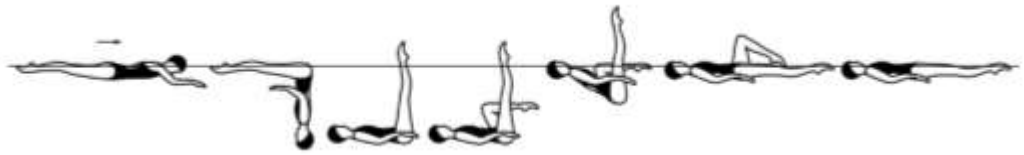
The split scull should always be in the same position and should feel that the athlete is sculling on a hard surface. The athlete should not extend the arm down, deeper and deeper. The top arm should scull very fast.

A good partner exercise for the beginning of the figure is to have an athlete hold the hips of the other athlete and push them forward.

327. BALLERINA DD = 1.8 – *New figure*

Figure Description:

From a **Front Layout Position** a Somersault Front Pike is executed to a **Submerged Ballet Leg Double Positio**n. One knee is bent to assume a **Submerged Flamingo Position**. Maintaining this position, the body rises to a **Surface Flamingo Position**. The ballet leg is lowered in a 90° arc to the surface as the other leg moves to assume a **Bent Knee Position**. The toe moves along the inside of the extended leg until a **Back Layout Position** is assumed.



NVT:

							Total
NVT=	6.0	8.0	3.0	10.0	15.0	10.5	52.5
PV =	1.14	1.52	0.57	1.90	2.86	2.00	
					68%		

Deductions:

Front Layout Position to Front Pike Position	*Travel is as per the proposed FINA rule re deductions for travel		
Front Layout Position to Front Pike Position,	Torso and head up to 15 degrees short or beyond perpendicular	Torso and head 16-30 degrees short or beyond perpendicular	Torso and head 31 degrees or more short or beyond perpendicular
Front Pike to Submerged Ballet Leg Double	Pike is up to 15 degrees off	Pike is 16 - 30 degrees off	Pike is 31 degrees or more off
Submerged Double Ballet Leg Position to Submerged Flamingo Position	As one leg is lowered to Submerged Flamingo Position vertical leg up to 15 degrees short or beyond perpendicular or leg is perpendicular and torso is up to 15 degrees short of or beyond horizontal	As one leg is lowered to Submerged Flamingo Position vertical leg up to 16-30 degrees short or beyond perpendicular or leg is perpendicular and torso is up to 16-30 degrees short of or beyond horizontal	As one leg is lowered to Submerged Flamingo Position vertical leg is 31 degrees or more short or beyond perpendicular or leg is perpendicular and torso is 31 degrees or more short of or beyond horizontal
Submerged Flamingo Position to Surface Flamingo Position	Torso is 75 - 89 degrees from perpendicular leg	Torso is 60-74 degrees from perpendicular leg	Torso is 60 degrees or tighter from perpendicular leg
	BL is 15 degrees short of/or beyond perpendicular	BL is 16 - 30 degrees short of/ or beyond perpendicular	BL is 31 degrees or more. short of/or beyond perpendicular

Challenging parts:

- Holding the Submerged Double Ballet Leg Position
- Rising in the Flamingo Position and not "popping" to the surface
- Accuracy of positions and water level

Common mistakes:

- Rounded back, head coming up too fast
- Travel
- Overall control

Suggested drills:

- Pike in all directions on land and in the water
- Surface Front Pike at wall and with bottles
- Surface Front Pike to Vertical Position under water
- Double Ballet Leg at bottom of the pool in shallow pool
- Double Ballet Leg to Flamingo Position at the bottom of the pool in shallow water
- Ballet Leg at the wall
- Ballet Leg with bottles
- Laps of Ballet Legs

Coaching recommendations and comments:

Although the beginning of this figure needs to be accurate for each position performed, the end of the figure is the part with the most weight and the most difficult transitions from a strength perspective. As in the Straight Ballet Leg, the athlete needs to do a lot of land training to improve the Bent Knee Back Layout Position.

Front Layout Position: athlete lines up their head with the middle judge. In the Front Layout Position, depending on the athlete's buoyancy, they can place their hands right underneath the chest or underneath the hips if the athlete has a tendency to have their feet under water. Once the head is in the water, the athlete slowly transfers their arms to barrel scull with the arms right under the face so that the back is not rounded and still flat and set.

Surface Front Pike Position: the athlete needs to make sure they get to the Surface Front Pike with a flat back. There is no rounded back from Front Layout to Surface Front Pike Position. The action starts with the barrel scull grabbing the water but also with the hips bending and the chest pushing diagonally. The athlete needs to focus their eyes diagonally forward. They should not tuck their chin in and round their back. The transition from Front Layout to Surface Front Pike can be done with the body only and the athlete should do very light paddle scull.

The athlete starts with the head in front of the middle judge and finishes the action with the hips in front of the middle judge.

Rotation to Submerged Double Ballet Leg Position: the athlete keeps the arms in barrel scull in the Surface Front Pike. To transition from Surface Front Pike to Submerged Double Ballet Leg Position, the athlete needs to focus on not changing the angle and moving backwards toward the head. In order to do that, the athlete starts with 2 barrel sculls feeling that they are opening the angle (like in a porpoise) to get the buttocks under the water. Once the buttocks are under the water, the athlete pushes the toes, while

keeping the angle, still feeling that the angle is open more than 90 degrees. It is important that the athlete continues to push with the toes rather than scull backwards to avoid the travel. During the rotation, the athlete switches the hands from barrel scull to split scull with one hand under the hips and one under the head.

Submerged Double Ballet Leg to Submerged Flamingo Position and sculling techniques: the athlete then drops the leg very slowly to Submerged Flamingo Position with the arms still in split scull. At the same time, the body moves slightly towards the leg to arrive into the Surface Flamingo Position. During the rise, the athlete can start the split scull with the fingers open, then join the fingers, as they get closer to the surface and gradually increase the strength of the scull as they rise up. The athlete does split scull in Double Ballet Leg Position, then the same scull in the Flamingo Position when they initiate the rising. When they get close to their floating point, they need to swap top arm from above the head to close to the hip. During this scull transition, the athlete needs to make sure they go with the hands sideways, not flat.

311. KIP DD = 1.6

Figure description:

From a **Back Layout Position**, a partial Somersault Back Tuck is executed until the shins are perpendicular to the surface. The trunk unrolls as the legs are straightened to assume a **Vertical Position** midway between the former vertical line through the hips and the former vertical line through the head and the shins. A *Vertical Descent* is executed.

NVT:

					Total
NVT=	3.0	2.0	23.0	14.0	42
PV =	0.71	0.48	5.48	3.33	
			88%		

Deductions:

Tuck to Inverted Tuck Position	Shins up to 15 degrees short or beyond perpendicular	Shins 16-30 degrees short or beyond perpendicular	Shins 31degrees or more short or beyond perpendicular
Inverted Back Tuck position to Vertical Position	Legs/Body up to 15 degrees from Perpendicular	Legs/ Body between 16 and 30 degrees from Perpendicular	Legs/Body more than 30 degrees from Perpendicular
Vertical and Vertical Descent	Legs/Body up to 15 degrees from Perpendicular	Legs/ Body between 16 and 30 degrees from Perpendicular	Legs/Body more than 30 degrees from Perpendicular

Challenging part(s):

- Kip to Vertical Position unroll
- Vertical descent

Common mistakes:

- Travel at the beginning of the figure
- Unrolling with a flat back
- Timing of the unrolling
- Loosing height in the unroll
- Travel throughout the figure
- Poor understanding of placement of the hands
- Not keeping the shins perpendicular to the surface
- Not increasing the grab of the water as they lift to vertical
- Not rotating around the axis (Back Layout to Inverted Tuck Position)

Suggested drills:

- Kip unroll at wall
- Kip unroll with bottles
- Support scull sets

Coaching recommendations and comments:

This is a very short figure, very unbalanced with the majority of the points coming from the last 10 seconds of the figure. It is important to focus on alignment, control and height on the tuck and vertical.

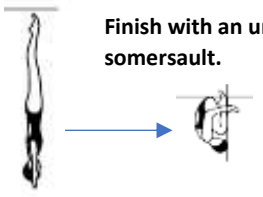
Note that there is no pause in the Tub Position before the rotation to the Inverted Tuck Position.

Kip Unroll (Tuck to Vertical Position): hips should move forward during the unroll to go in between the shins and the head. From the Tuck Position, the head is pulling forward slightly (30 degrees) to make some space for the hips to move forward and align with the legs and head.

Sculling: from the Inverted Tuck Position, the entire unroll, Vertical hold and the beginning of the Vertical descent is done in support scull.

Hand placements: the hands are going to move from standard scull on the side of the body to very light support scull on the side of the shins, with the hands in the front of the shins. The athlete will need to accelerate their scull and intensify their grab on the water just before initiating the Inverted Tuck to Vertical Position unroll. In the Vertical Position, the support scull should be smooth, fast, flat and of wide range. The hands then transition very slowly from support scull to scull to the sides of the body and eventually over the head at the end of the vertical descent.

Ending: like any other figure ending in a Submerged Vertical Position, the athlete must hold the Vertical under the water, sideways to the judges, and then perform a submerged tuck to finish the figure cleanly.



401. SWORDFISH DD = 2.0

Figure description:

From a **Front Layout Position**, a **Bent Knee Position** is assumed. The back arches more as the extended leg is lifted in a 180° arc over the surface to assume a **Bent Knee Surface Arch Position**. The bent knee is straightened to assume a **Surface Arch Position**, and with continuous motion, an *Arch to Back Layout Finish Action* is executed.

NVT:

					Total
NVT=	4.0	35.0	14.5	8.0	61.5
PV =	0.65	5.69	2.36	1.30	

80%

Deductions:

Surface Arch Bent Knee Position	Bent Knee (thigh) up to 15 degrees from perpendicular	Bent Knee (thigh) between 16 and 30 degrees from perpendicular	Bent Knee (thigh) more than 30 degrees from perpendicular
Surface Arch Position to Back Layout Position	*Travel is as per the proposed FINA rule re deductions for travel		

Challenging parts:

- Lift of the leg in the beginning of the figure
- Bent Knee Arch transitional position to Surface Arch Bent Knee Position

Common mistakes:

- Loss of height at the beginning with the hips sinking too much
- Breaking the neck line too much

- Piking, instead of gradually arching, in the beginning of the figure
- Traveling foot first in the beginning of the figure
- Poor control and stability especially when landing in Surface Arch Bent Knee Position
- Poor lower back flexibility for end of the figure
- Travel throughout the figure

Suggested drills:

For the beginning:
- Laps of paddle scull and support scull
- Laps of paddle scull with the back leg just above the water
- Land exercises to strengthen glutes and lower back
- With a partner, lifting the foot off a partner's hand

For the middle part:
- With the bottles
- Holding the most difficult position in the middle

For the end:
- Improve back flexibility on land
- Surface Arch Bent Knee handstand (foot on wall)
- Surface Arch at wall (feet on wall)

Coaching recommendations and comments:

Glute strength, lower back and hip flexibility: the beginning of this figure requires large amounts of glute strength. Without the glute strength, the athlete will rely on scull and arm strength to stay closer to the surface. The following exercises are examples of land exercises to improve glute strength:


1

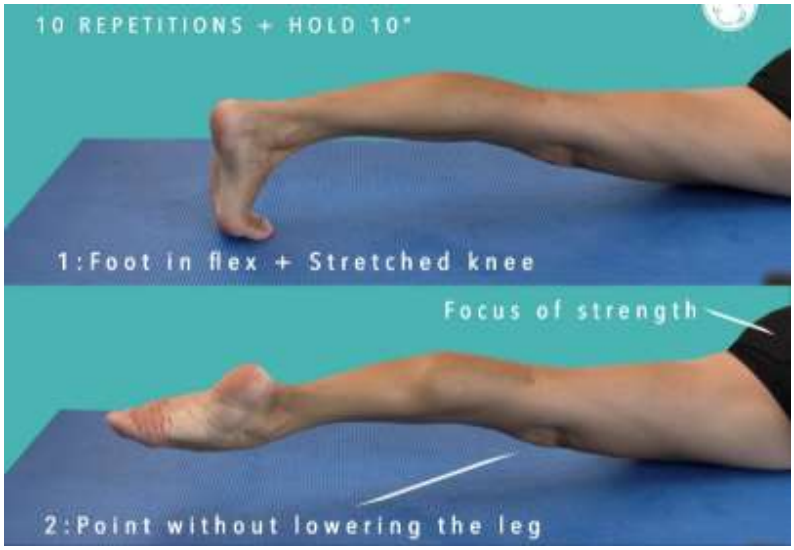

2


3


4


5


6



Sculling: athlete starts with a couple of paddle sculls to initiate the action, then switches to support scull and opens the scull wider as they progressively arch the body. During the opening and through the Knight Position the support scull is very wide. The athlete then switches to split scull from Knight to Bent Knee Surface Arch Position and then to reverse torpedo for the very end of the figure. Please note: there is no stop in the Knight Position, the athlete will pass through it.

226. SWAN DD = 2.1 – *New figure*

Figure Description:

A Nova is executed to the **Bent Knee Surface Arch Position.** The bent leg straightens to assume a **Knight Position**. The body rotates 180° to assume a **Fishtail Position**. The vertical leg is lowered to the surface to meet the opposite leg in a **Front Pike Position** and with continuous movement the body straightens to a **Front Layout Position**. The head surfaces at the point occupied by the hips at the beginning of this action.

NVT:

						Total
NVT=	17.5	14.0	14.0	14.5	6.0	66
PV =	2.65	2.12	2.12	2.20	0.91	
			90%			
	26%	21%		21%	21%	

Deductions:

Back Layout to Bent Knee Surface Arch Position	*Travel is as per the proposed FINA rule re deductions for travel		
Bent Knee Surface Arch to Knight Position	Vertical leg/Body up to 15 degrees short or beyond perpendicular	Vertical leg/Body up to 16 - 30 degrees short or beyond perpendicular	Vertical leg/Body 31 degrees or more short or beyond perpendicular
Rotation from Knight Position to Fishtail Position	Torso and/or leg arched or piked up to 15 degrees from perpendicular	Torso and/or leg arched or piked 16-30 degrees from perpendicular	Torso and/or leg arched or piked 31 degrees or more from perpendicular
Fishtail to Front Pike Position	Torso arched or piked 115 degrees from perpendicular	Torso arched or piked 16-30 degrees from perpendicular	Torso arched or piked 31 degrees or more from perpendicular
Front Pike to Front Layout Position	*Travel is as per the proposed FINA rule re deductions for travel		

Challenging parts:

- Beginning to Surface Arch Bent Knee Position
- Keeping hips square from Surface Arch Bent Knee to Knight Position
- Rotation from Knight to Fishtail Position
- Surface Front Pike to Front Layout Position

Common mistakes:

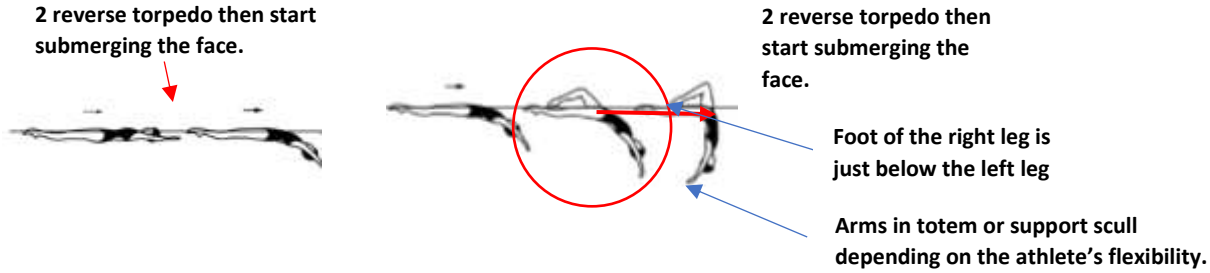
- Poor lower back flexibility
- Hips rotating out

Suggested drills:

- Land work for flexibility and core strength
- Practice split scull and Surface Arch Bent Knee with both legs and on both sides for better control
- Surface Arch Bent Knee to Knight Position with bottles
- Practice back and forth rotation from Knight to Fishtail Position
- Surface Front Pike to Front Layout Position with feet at wall
- Surface Front Pike to Front Layout Position in laps

Coaching recommendations and comments:

Dolphin start: the athlete starts with two gentle reverse torpedo actions before the head starts to go under the water. The athlete should progressively arch back (just like a reverse unroll – it is one vertebrae at a time). A good way to do this is first the forehead, then the eyes, then the nose, the chin, the shoulder, the chest, belly button, hip bones, hips. The leg starts bending once the athlete has started to arch the lower back (stomach is just going under). Once the leg starts bending, the athlete needs to think of the hips moving forward to align with the head and shoulder, not the whole body continuing to move forward.



Knee alignment: the athlete should think about bending only to mid-shin, or under the knee, to achieve vertical alignment of the right thigh.

Hand/Arms placement: The beginning of the figure is in dolphin scull and then transfers to split scull. Some athletes with good flexibility will do the Surface Arch Bent Knee and Knight Position in totem scull. The others will do the figure from Surface Arch Bent Knee all the way to the Surface Front Pike Position in support scull. From the Surface Front Pike to the Front Layout Position, the athlete performs support scull to small paddle to barrel scull at the end to control the action, and to avoid the increased speed of the rise to the surface.

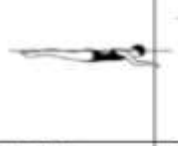
Surface Front Pike to Front Layout Position: the athlete initiates the action from the hips not the hands. The athlete needs to think about opening up at the hip joint with the back flat. The arms are there to slow the motion down and keep the body at the surface.

363. WATER DROP DD = 1.5 – *New figure*

Figure Description:

From A **Front Layout Position**, a **Front Pike Position** is assumed. The legs are lifted simultaneously to a **Bent Knee Vertical Position**. A 180° Spin is executed as the bent knee is extended to a **Vertical Position** before the ankles reach the surface of the water.

NVT:

					Total
NVT=	6.0	15.0	15.0	-	36
PV =	1.67	4.17	4.17	-	

83%

Deductions:

Front Layout Position to Front Pike Position	*Travel is as per the proposed FINA rule re deductions for travel		
	Torso and head up to 15 degrees short or beyond perpendicular	Torso and head 16-30 degrees short or beyond perpendicular	Torso and head 31 degrees or more short or beyond perpendicular
Legs lifted to Bent Knee Vertical Position	Vertical leg/Body up to 15 degrees from Perpendicular	Vertical leg/Body between 16 and 30 degrees from Perpendicular	Vertical leg/Body more than 30 degrees from Perpendicular
180 degree Spin as bent knee extends to vertical	Extended legs and body with legs up to 15 degrees short of perpendicular	Extended legs and body with legs 16 - 30 degrees short of perpendicular	Extended legs and body with legs 31 degrees or more short of perpendicular

Challenging parts:

- Surface Front Pike to Vertical Position lift
- Spin down

Common mistakes:

- Maintaining pike alignment in the lift
- Travel in the spin
- Timing of the closing and the drop
- Position of the toe of the bent leg attached to the vertical leg
- Spin with hands not body
- Bent knee too open in the rotation

Suggested drills:

- Surface Front Pike at wall or with bottles
- Surface Front Pike to Vertical Bent Knee Position at wall or with bottles
- A lot of support scull sets

Coaching recommendations and comments:

Front Layout Position: athlete lines up their head with the middle judge. In the Front Layout Position, depending on the athlete's buoyancy, they can place their hands right underneath the chest or underneath the hips if the athlete has a tendency to have their feet underwater. Once the head is in the water, the athlete slowly transfers their arms to barrel scull with the arms right under the face so that the back is not rounded and still flat and set.

Surface Front Pike Position: the athlete needs to make sure they get to the Surface Front Pike with a flat back - there is no rounded back from Front Layout to Surface Front Pike Position. The action starts with the barrel scull grabbing the water, but also with the hips bending and the chest pushing forward diagonally. The athlete needs to focus their eyes diagonally forward - they should not tuck their chin in and round their back. The transition from Front Layout to Surface Front Pike Position can be done with the body only and the athlete should do very light paddle sculls.

The athlete starts with the head in front of the middle judge and finishes the action with the hips in front of the middle judge.

Surface Front Pike to Vertical Bent Knee Position: to keep the body vertical (and not forward with the lower back arch and the neck broken backwards), the athlete needs to keep the chin in to extend the back of the neck. The eyes need to look at the chest and the athlete should have the feeling of stretching the spine down to the bottom of the pool. The athlete needs to focus on lifting their leg, without using their hands. They need to use their leg to lift, the arms are there only to support the action. It can start with one or two paddle sculls and then transition to support scull. Some athletes will do the whole action with support scull. The whole lift of the leg should be really smooth. The thigh of the bent leg should be the reference at the surface and not bend underwater. The athlete should focus on making the semi-circle (rainbow) with the leg moving up longer and more stretched than the bent leg. Coaches should also ask the athlete to keep the height throughout: start with buttocks dry and maintain that height through the Vertical Bent Knee Position.

Spin: the athlete needs to focus on smooth scull, alignment of head, body, hips and legs and the timing of the closing so that the toes close to Vertical Position at the same time as the body completes the 180 spin. In the closing from bent knee to vertical - at the quarter mark, the bent leg should be at the ankle of the other leg. At the $1/7^{th}$ mark, the toe of the bent leg should be at the knuckle of the vertical leg so that the athlete only has a tiny move to finish the closing and the rotation. Timing of the descent is also key so that the athletes reached the ankle level at the same time as closing the legs.

Vertical Descent: from the ankles to Submerged Vertical, the athlete pulls down with the scull to submerge (usually small barrel scull overhead).

Ending: like any other figure ending in a Submerged Vertical Position, the athlete must hold the vertical under the water, sideway to the judges and then perform a submerged tuck to finish the figure cleanly.