

# Optimal Skill Continuity

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## Introduction

The following information and concepts have been developed over a series of 15-20 years. This has been an area of personal interest as a gymnast and even more now as a coach. Theoretically, in order to quicken learning time and develop advanced abilities there must be an optimal relationship of the post arm, strong leg and the preferred twisting direction of skills from event to event. I have considered the following areas in order to develop a skills list to record the twisting direction of my gymnasts: (1) preferred twisting direction, (2) post leg, and (3) post arm. This document will include an outline of skills that I have identified as being optimal for a given direction of predominant twisting. It is specifically unique to the Men's

Gymnastics Program. The Women's Program has its own differences in apparatus and skill direction. These may or may not apply to what I would consider the optimal twisting direction of skills from event to event for the Men's Program.

It is possible that, after reading through this information, you will disagree with parts of it, and perhaps you're correct in your thinking. However, I believe it is very important to point out that it is not a matter of having learned something right or wrong, it's a matter of how close to optimal one can be in order to be the most efficient in learning. There are many examples of outstanding gymnasts that were not the most efficient in their learning or their training. This is an effort to make training time both effective and efficient.

## Purpose

There is no one determining factor of an individual's preferred twisting direction; therefore, I use a series of developmental skills that I feel have the optimal twisting relationship with each other. In this way, I can record and make an early detection of non-optimal twisting directions in the gymnasts' development and correct them if it seems reasonable. In return this will make future learning much easier and more effective. A record of each gymnast's twisting direction is taken and observed periodically during his development. This recording of each gymnast's twisting direction acts as a reference chart that helps instruction of skill direction and selection in order to stay on task. Over a period of time enough twisting information about the individual is gathered so that planning the gymnast's future becomes predictable in terms of twisting direction. This eliminates wasted time exploring and deciding which way and how to do the more advanced skills, and perhaps the creation of skills not yet performed.



## Philosophy of Optimal Skill List

There is no right or wrong way to make a skill. There is, on the other hand, an easier or harder way to get the same thing accomplished and receive the same difficulty value. I have no doubt that it's possible to do multiple twisting both ways, but, why spend the time relearning what has already been learned? When learning a new skill, one would want to utilize all that has been previously learned to help accomplish the new skill. In order to accomplish the most effective long range development, the following concepts regarding the preferred twisting direction need to be applied and monitored.

### **Application of Skill Continuity**

1. Forward and backward saltos should all twist in the same preferred twisting direction.
2. The gymnast's preferred twisting direction should remain the same from event to event with the exception of the roundoff, Kasamatsu, and horizontal bar pirouette.
3. Do not mistake the Brani as a no-handed roundoff or aerial cartwheel. The Brani should utilize the preferred twisting direction.
4. The twisting action in the roundoff should oppose the preferred direction of twist in order to facilitate odd twisting step out skills on floor and develop Kasamatsu type vaults.

Example: A left-legged roundoff is a right twisting roundoff. A gymnast that prefers to twist to the left should do a left- legged roundoff.

5. Circles should turn in the direction of the preferred twist. (Through observation, I have noticed that the Moore simulates the reverse pirouette and hop Moore is hop pirouette and loop through a handstand pirouette is in the same direction of PB pirouette moves. Spindle is like Makuts, etc.)

Example: *A left twisting gymnast should circle clockwise. A right twisting gymnast should circle counter clockwise.*

6. The parallel bar pirouette should turn in the direction of the preferred twist. This should be the opposite direction of the twist during the suggested roundoff.
7. Lateral (Side) parallel bar dismounts should be learned so that the twisting action is initiated towards the bar, both backward and forward.
8. Parallel bar dismounts that move laterally (sideways), dismount forward and backward on opposite sides.

Example: *A left twisting backward full should dismount to the right side. The same gymnast would do a left twisting forward full that would dismount to the left side.*

9. The horizontal bar  $\frac{1}{2}$  pirouette should oppose the preferred twisting direction. This is opposite from the  $\frac{1}{4}$ ,  $\frac{1}{4}$  parallel bar pirouette.

The skills in the following list were chosen for the direction of their twisting motion or biomechanical advantages.

## Trouble Shooting

At times changes are made to become more efficient in what will be learned. Age, learning time, talent and psychological abilities all need to be considered. The coach must know his gymnasts. Can they make the changes you are asking?

When compared to the other skills, does this trouble skill seem awkward? If yes, change it to the optimal twisting skill pattern.

Examples:

- Change parallel bar pirouette anytime (change completed in approximately 2-6 weeks)
- Change hurdle, round off on floor exercise below age 9 – or maybe never (can take 2-3 years)

When should periods of twist evaluation be done? Further, what skills should be considered for evaluation for each level? Some monitoring should be ongoing and continuous as the athlete develops skills. The athletes we monitor include all competitive levels, from pre-team through the elite level. Of course, once started in the right direction, elite competitive level athletes need less monitoring. The following chart gives some idea of the points of time and skills within an athlete's development we evaluate for skill continuity.

You would think that a preferred twist would carry over from event to event. I have many examples of where preferred twist did not. An eight year old who did a handstand forward roll, jump full twist to the right, also did a jump full twist to the left on trampoline as his preferred twisting action. This is sometimes more common with very talented kids—athletes that can perform simple tasks either direction without much thought. I have had boys circle on the mushroom in one direction and perform loops on the horse in the other direction. I often attribute this phenomenon to simply "following the cow" training. These boys just happen to see and do what the gymnast did on the turn just before they are up. There are also many examples where the handspring leg and roundoff leg have also been interchanged. These are examples of areas which you must watch for and evaluate for skill continuity.

Optimal skill continuity is an important aspect of learning for the developing athlete. Good skill continuity enhances efficiency, performance and reduces frustration. Whether or not you agree with all of the principles covered in this article, it is important that some prior thought and planning go into the development of skill continuity for your athletes. I would strongly recommend that you develop some type of written or chart mechanism for monitoring this development in your athletes. Written records in this area will help to keep you aware of your athletes' development progress and make you more efficient in the gym.

## Optimal Skill Continuity Model

Reference Skills	Preferred Left Twist	Preferred Right Twist
<b>Floor</b>		
Roundoff	Left Leg / Right Twist	Right Leg / Left Twist
Brani (Front ½ Twist)	Left Twist	Right Twist

Twisting Salto's	Left Twist	Right Twist
<b>Horse</b>		
Circle Direction	Clockwise	Counter Clockwise
<b>Vault</b>		
Kasamatsu	Left Hand ¼ On / Left Twist	Right Hand ¼ On / Right Twist
Tsukahara 1/1 *	Right Hand ¼ On / Left Twist	Left Hand ¼ On / Right Twist
<b>Parallel Bars</b>		
Forward Pirouette	Right Arm / Left Twist	Left Arm / Right Twist
Reverse Pirouette	Left Arm / Left Twist	Right Arm / Right Twist
Hop Pirouette	Left Twist	Right Twist
Forward Stutz	Left Arm / Left Twist	Right Arm / Right Twist
Reverse Stutz	Right Arm / Left Twist	Left Arm / Right Twist
Healy	Right Arm / Left Twist	Left Arm / Right Twist
Diamidov	Left Arm / Left Twist	Right Arm / Right Twist
<b>Lateral Pb Dismounts</b>		
Forward Salto	Left Side	Right Side
Backward Salto	Right Side	Left Side
Forward Salto 1/1 Twist	Left Side / Left Twist	Right Side / Right Twist
Backward Salto 1/1 Twist	Right Side / Left Twist	Left Side / Right Twist
<b>Horizontal Bar</b>		
Blind Change (Swing ½)	Left Arm / Left Twist	Right Arm / Right Twist
Pirouette	Left Arm / Right Twist	Right Arm / Left Twist
Cross Change	Left Arm / Right Twist	Right Arm / Left Twist
Higgins Change	Left Arm / Right Twist	Right Arm / Left Twist
Full Pirouette	Left Arm / Right Twist	Right Arm / Left Twist
Hop Pirouette	Right Twist *	Left Twist *
Gienger	Left Twist	Right Twist

**\*The Tsukahara 1/1 is not a preferred skill selection. It has been included for those gymnasts that would be at a slight disadvantage from previously learned mechanics.**

## Buffalo Grove Gymnastics Center Twisting Analysis

### Class VI

NAME	B-DAY 09/01-95/96	AGE	R.O. LEG	F.X. FULL	CIR. DIR.	P.B. STUTZ	P.B. PIRO	H.B. SW½	H.B. PIRO
RYAN	08/16/89	6	R		CC			L	
SPENCER	10/25/88	6	L		CW			L	
ZACHARY	10/26/88	6	R		CW			R	
JONATHAN	02/13/88	7	R		CC			L	
ANDREW	09/07/87	7	R		CW			R	
DOUG	10/18/87	7	R		CW			L	

ADAM	10/02/87	7	L		CW	L
RICKY	11/21/87	7	R		CW	L
BRYCE	10/30/87	7	L		CW	L
BRYAN	06/30/88	7	L		CC	R
JASON	05/12/88	7	R		CW	L
JOEL	10/06/87	7	R		CW	R
SCOTT	07/15/87	8	L		CW	L
NOAH	02/04/87	8	R		CC	R
DAVID	07/27/87	8	L		CC	R
BOBBY	08/02/87	8	R		CC	R
ADAM	02/03/86	9	R		CW	R
PATRICK	04/12/86	9	R		CC	R
DANIEL	12/14/85	9	R		CW	R
BRANDON	07/29/86	9	L		CW	R
MYLSE	08/15/85	10	R		CC	R

**Class V**

NAME	B-DAY 09/01-95/96	AGE	R.O. LEG	F.X. FULL	CIR. DIR.	P.B. STUTZ	P.B. PIRO	H.B. SW <sup>1/2</sup>	H.B. PIRO
GEOFFERY	02/25/87	8	L	L	CW			L	
DAVID	07/12/86	9	R	R	CC			R	
KEVIN	01/31/86	9	R		CW			R	
DANIEL	05/29/86	9	R	R	CC			R	
JOSH	10/01/85	9	R		CW			R	
EUGENE	12/23/85	9	R		CC			R	
CHRIS	09/18/84	10	R	R	CC			R	
NICHOLAS	02/16/85	10	L	L	CW			L	
C.J.	07/18/85	10	R	R	CC			R	
SCOTT	01/26/85	10							
DAVID	08/27/85	10	L	L	CW			L	
BRANDON	02/23/84	11							
JARED	01/12/84	11	L	L	CC			L	
STEVEN	12/01/84	11	R	R	CC			R	
MICHAEL	08/05/84	11	L	L	CW			L	
DUFFY	08/05/84	11							
GREG	03/23/84	11	L	L	CW			L	

## Notation:

R = Right Leg or Supporting Arm. L = Left Leg Or Supporting Arm.

CW = Clockwise (viewed from above) CC = Counter Clockwise (viewed from above)