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Growing up, falling down

Experts point to Kimmie Meissner's recent growth spurt as the catalyst for her losing streak

By Candus Thomson

Sun reporter

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There are no figures in women's figure skating. Kimmie Meissner is finding that out the hard way.

A growth spurt, or just a couple of pounds on hips and thighs, can upset a world-class skater's finely calibrated internal gyroscope or put stress on a teenager's developing bones. It happened to five-time world champion Michelle Kwan. It happened to former U.S. champion Sasha Cohen. And now, say skating experts who have watched Meissner's recent struggles, it's happening to her.

Just two years ago, Meissner won the world championship and followed it last year with the U.S. Championship. But Meissner, 18, fell three times at the Grand Prix Final in December - finishing last - and fell three more times last month as she tried to defend her national title. Last week, the Bel Air skater moved to Florida and changed coaches, leaving longtime mentor Pam Gregory for "jump doctor" Richard Callaghan.

Triple jumps - once Meissner's bread and butter - have deserted her this season. After her seventh-place finish at nationals, she blamed "mental" rather than physical problems. She has not given extended interviews about her recent performances, saying she wants to focus on practice for the March world championships in Sweden.

Kwan, who lost her national title in 1997 to a 14-year-old skater, has spoken to Meissner, and said she understands what the teenager is going through. "As a skater, you always have to adjust," Kwan said. "It's a balancing act. I told that to Kimmie. She's growing up and becoming a beautiful woman."

Weight is a sensitive topic in some women's sports. Since the mid-1990s, after publication of the book *Little Girls in Pretty Boxes* about the making and breaking of elite figure skaters and gymnasts, both sports have been reluctant to list athletes' weights. Media guides list only their heights.

Last year at this time, Meissner seemed puzzled when a reporter asked her about her body development. She said that her growing days were over.



But spurt she did. She was 4 feet 11 inches tall at age 14, 5 feet tall the next year and now stands at 5 feet 3 inches.

Skating experts say growth can cause mental and physical problems. "If you learned to spin with your old body, getting symmetrical around the new body takes relearning," said Dr. Harry Shipman, a University of Delaware physicist and amateur figure skater. "It's hard. You have very little control over where your axis is. It's really a subtle thing to get it right."

Skaters spend years working on muscle memory so jumps and spins become second nature. Meissner acknowledged that she "is big on muscle memory."

"If I miss more than two days of practice, I'm really lost," she said.

She and other maturing female skaters are under the influence of what physicists call the "moment of inertia," or how much an object resists spinning. An object - in this case, the human body - turns faster if the mass is packed tightly around its axis. As a girl matures physically, her mass expands from her axis, increasing the moment of inertia and making it harder to rotate quickly.

Skaters try to compensate by creating more power in their launches or by squeezing their arms to their bodies to make their mass more compact.

"You can pull your arms in, but your butt is going to be shaped the way your butt is going to be shaped," Shipman said.

Dr. Caroline Silby, a sports psychologist and member of the 1983-1984 U.S. figure skating team, said physical development can play mental tricks.

"Athletes are so in tune with their bodies that when it changes, it can really spook them," she said. "They end up trying to feel the way they used to feel, and that isn't going to happen."

Kwan also had growth creep up on her a couple of inches at a time. During the 1996-1997 season, she added about 6 inches and 21 pounds to her frame to stand 5 feet 2 inches tall and weigh just less than 100 pounds.

At the 1997 nationals, Kwan, 17, fell on two triple jumps and stumbled on a third, allowing 14-year-old Tara Lipinski to take the title from her. Lipinski went on to win the world title.

The next year, Kwan regained her U.S. crown - the first of eight consecutive titles - but finished second to Lipinski at the 1998 Olympics.

Just before the Winter Games, then-coach Frank Carroll said growing pains gave Kwan "a physical feeling of uncertainty."

"I think Michelle's body changed tremendously last year, although she doesn't realize it," he told reporters. "I mean, she has a woman's body, and, you know, a very beautiful body, when before last year, she just had a kid's body."

"Growing up is hard," Kwan said. "You're a little off-balance. Your speed and your timing may be off. When you're at that age, you're not that confident with your body. It's an instrument, and you have to fine-tune it."

For Cohen, growth caused other problems in 2001. The skater, then 16, was forced to withdraw from nationals because of a stress fracture in her lower back that doctors said was probably caused by a 4-inch growth spurt, bringing her height to 5 feet 1 inch tall.

Ron Ludington, director of the University of Delaware Ice Skating Science Development Center, said one of the greatest hurdles for maturing female skaters is maintaining their focus and not getting discouraged because what once was simple now is hard.

"The process is much easier for a growing boy," said Ludington, an Olympian and member of the Figure Skating Hall of Fame. "They gain muscle and mass in places where it is a benefit."

The skaters who glided past Meissner at nationals - champion Mirai Nagasu, 14; runner-up Rachael Flatt, 15; and fourth-place finisher Caroline Zhang, 14 - are all 4 feet 11 inches tall. Their growing years are ahead of them.

Or maybe not.

Kristi Yamaguchi, the 1992 Olympic gold medalist, remains a size 0.

candy.thomson@baltsun.com

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