Dear Colleague,

Belated Happy New Year! Welcome to the first Newsletter of 2016 published by the Dance Education Network (DEN) of the International Association for Dance Medicine & Science (IADMS). The goal of the DEN is to reach out to educators and dancers in order to provide information about IADMS and IADMS initiatives.

Items in this Newsletter include:

- An endorsement of IADMS from Honorary Member – Terrence S. Orr
- When can I start Pointe Work?
- IADMS 26th Annual Conference: Wanchai, Hong Kong.
- IADMS Regional Meeting Sydney

**IADMS Honorary Member Terence S. Orr:**

California native Terrence S. Orr trained at San Francisco Ballet, joining the company while in high school and becoming a principal dancer at 17. He moved to New York where he began a celebrated career at American Ballet Theatre, rising from the corps de ballet to principal; while continuing to perform he also joined ABT’s artistic staff. He staged works for ballet companies around the world, including The Royal Ballet at Covent Garden, the Paris Opera Ballet, La Scala, Australian Ballet and National Ballet of Japan. He was appointed ballet master at ABT in 1978, a post he held until his selection as Pittsburgh Ballet Theatre’s Artistic Director in 1997. Since then Mr Orr has expanded the range of PBT’s vocabulary and repertoire, cultivating a dynamic roster of classics and new works.

“Dancers are both artists and elite athletes, and their bodies are their instrument. One of the greatest assets a company can have is the care of a specialized medical team that understands the unique physical demands of dance. Advancements in dance medicine help artists maintain their bodies, recover faster and stronger from injuries, or prevent them altogether. Ultimately, this type of science extends careers and keeps artists onstage.”

Terrence S. Orr

Artistic Director, Pittsburgh Ballet Theatre
When can I start Pointe Work?
Guidelines for Initiating Pointe Training.

Information is taken from the IADMS Resource Paper written by:
David S. Weiss, MD., Rachel Anne Rist, MA., and Gayanne Grossman, P.T., Ed.M.

Every little girl who studies ballet and dreams of becoming a ballet dancer is eager to dance on pointe. It is the culmination of their training in Classical Ballet and they can identify with the Swans and Sylphs that they see at their visits to the Ballet. When the students ask their teacher, “When can I start Pointe work?” the answer often given is “at 12 years of age.” However, starting pointe at age 12 presupposes that the child is beginning her fourth year of ballet classes at a dance academy with a program designed to train professional ballet dancers. Can any one age be the correct answer for all students? Are all girls at the same stage of development at age 12? The answer to both questions is “no.” There may be significant differences in girls’ physiologic development, depending on the onset and tempo of puberty. After the age of five years, linear growth proceeds at approximately 5.5 cm (two inches) a year. For girls, the growth velocity increases sharply around age ten and reaches a peak at age 12. During this rapid growth period there are inevitably significant differences in development from one child to the next.

The completion of growth in a long bone such as the femur is signaled by the fusion or closure of the epiphysis (growth plate). This occurs in the foot slightly earlier than in the leg. The appearance of ossification (bone formation) centers in the foot begins at age two months in utero. The last epiphysis to close in the foot does so at an average age of 16 years in boys and 14 years in girls. From age five through to age 12 the average girl’s foot grows 0.9 cm (0.35 inches) per year, reaching an average foot length of 23.2 cm (nine inches) at age 12. Thereafter the average girl’s foot growth rate slows for the next two years. The completion of bone growth in the feet is often given as a reason for choosing the age of 12 for beginning pointe work. However, this concept is basically erroneous, as bone growth in the average girl’s foot is not complete at that age.

If bone growth in the foot is not complete at age 12, and if this is a common age at which girls begin pointe work, is there medical evidence for damage to the bones of the growing foot resulting from training on pointe? Not to our knowledge: not from studies, anecdotes, or the authors’ collective personal experiences. This is not to suggest that initiation of pointe work before age 12 is harmless; indeed, by way of analogy, studies involving gymnasts have established the potential harm of repetitive microtrauma (a minor or microscopic lesion due to injury, which may become significant if often repeated) to growing bones.

If neither chronological age nor bone maturation alone determines when to begin pointe work, what other factors must be considered? In the fifth (and final) edition of her seminal book Anatomy and Ballet: A Handbook for Teachers of Ballet, Celia Sparger writes:

“It cannot be too strongly stressed that pointe work is the end result of slow and gradual training of the whole body, back, hips, thighs, legs, feet, co-ordination of movement and the ‘placing’ of the body, so that the weight is lifted upwards off the feet, with straight knees, perfect balance, with a perfect demi-pointe, and without any tendency on the part of the feet to sickle either in or out or the toes to curl or clutch. This moment will arrive at different times in different children, not only by virtue of previous training but according to their physical type, and in this may be included the growth of the bones.”
Risks Associated with Starting Pointe Too Early

As Sparger’s statement suggests, the potential dangers to the child from being placed on pointe before she is ready have less to do with actual bone or joint damage (although these are real) than with inadequate range of motion, strength, and stability. These factors may cause undue stress on the leg, pelvic girdle, and trunk.

The child with hypermobile feet and ankles is particularly at risk if placed on pointe too early. This condition, commonly described as the “over-arched” or “over-pointed” foot, can be deceptive. These students have the suppleness to achieve, or even exceed, the required pointe position, and thus they are more likely to be selected for ballet in general and pointe work in particular. However, they often lack the required strength and postural control to work safely on pointe. Prior to beginning pointe work in these students all the muscles of the leg must be strengthened, and adequate proprioceptive control developed, to facilitate correct alignment.

At the opposite end of the spectrum, the child with an inflexible foot and ankle, resulting in insufficient plantar flexion range of motion, is also at risk. To ensure proper alignment on pointe the line of the metatarsals (represented by the top surface of the forefoot) should be parallel to the line of the tibia (front of the shin) when the foot is pointed (combined ankle and foot plantar flexion). Attempting to perform pointe work without such anatomic facility will place excessive stresses not only on the foot and ankle, but also on the leg, pelvic girdle, and trunk. If there is hyperextension (“sway-back”) of the knees, even more ankle and foot range of motion (plantar flexion) is needed to assure proper alignment on pointe. Unfortunately, insufficient range of motion may not improve with time, and children with these restrictions may never obtain sufficient flexibility for pointe work.

To conclude we suggest that it is wise to be conservative in choosing when to begin pointe work with a student. As Howse notes: “There are certainly well-known dancers who were not strong enough to start their pointe work until they were over the age of sixteen and this has proved no handicap in their career.”

Guidelines

To summarize the above discussion we offer the following guidelines for when to begin pointe training:

1. Not before age 12
2. If the student is not anatomically sound (e.g., insufficient ankle and foot plantar flexion range of motion; poor lower extremity alignment), do not allow pointe work.
3. If she is not truly pre-professional, discourage pointe training.
4. If she has weak trunk and pelvic (“core”) muscles or weak legs, delay pointe work (and consider implementing a strengthening program).
5. If the student is hypermobile in the feet and ankles, delay pointe work (and consider implementing a strengthening program).
6. If ballet classes are only once a week, discourage pointe training.
7. If ballet classes are twice a week, and none of the above applies, begin in the fourth year of training.

One final word of advice, do not consider pointe work for a student, whatever age, who has not yet gained control of her pelvic alignment when dancing.

You can read this Resource Paper in its entirety here: https://www.iadms.org/?page=pointe
Here are a couple of links that you may find interesting with information on the development on bones and the anatomy of the foot:

https://www.youtube.com/watch?v=xXgZap0AvL0

https://www.youtube.com/watch?v=ROd1Acma64o

**IADMS** announces the 26th Annual Conference: October 20th – 23rd, 2016, held at the Hong Kong Academy for Performing Arts, Wanchai, Hong Kong.

Abstracts for presentations are due March 1. For more information see: [http://www.iadms.org/news/269929/Call-for-Presentations.htm](http://www.iadms.org/news/269929/Call-for-Presentations.htm)

Australian readers can look forward to an IADMS Regional Meeting to be held on the 15th May at the University of NSW, Sydney. The Meeting is being organized by Debra Crookshanks. For information contact: physio4dancers@ozemail.com.au
We encourage you to visit the IADMS website, www.iadms.org and hope you will look around at all of the information provided there. We encourage you to look specifically for the Education Committee resources. There are several ways to access these from the home page.

1) Click on ABOUT and you will find committees in the drop down menu. Opening that tab will get you to the Education committee page where you will find a profile of the committee members and an overview and links to our resources.

2) Under RESOURCES in the drop down box you can select RESOURCES and follow the link to Resources for Dancers and Teachers or select RESOURCES FOR TEACHERS which gives you information on A Day for Teachers, the IADMS Bulletin for Dancers & Teachers, Dance Medicine and Science Posters, Resource Papers, and links to external resources.

For further questions, contact education@IADMS.org

**IADMS Facebook Page and IADMS Blog**

Visit the IADMS Facebook Page to read interesting dance articles, resource papers, and video presentations. [https://www.facebook.com/iadms?fref=nf](https://www.facebook.com/iadms?fref=nf)

The IADMS Blog is specifically designed to connect dance teachers and students of all genres. The blog aims to provide relevant information for dance students and teachers and we are interested to find out what you would like to hear about or discuss.

And finally, “Education is not filling of a pail but the lighting of a fire.” -William Butler Yeats

Best wishes,

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