



# ARIZONA COLLEGE OF PODIATRIC MEDICINE



## Determining Factors of Pointe Readiness at an Elite Level

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### ABSTRACT

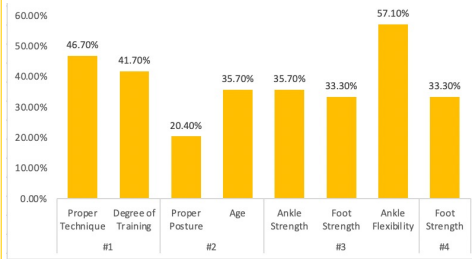
**Purpose:** Ballet dancers, who perform en pointe, experience higher incidence of pain to the lower extremity, and injury. Thus, physical and mental preparedness before beginning pointe training is vital. Currently, no guidelines exist for determining pointe readiness in young dancers and it is common for recreational studios to lack instructors with the proper training to conduct an adequate readiness evaluation. This study's purpose was to determine what criteria and factors are considered when determining pointe readiness at an elite level.

**Methodology:** Twenty-two elite dance companies were surveyed across the United States to determine what guidelines, criteria, and examinations are utilized to determine pointe readiness in young dancers. Programs were selected from Dance Magazine's 2023-2024 Pre-Professional Program Guide. Only elite training programs were included.

**Results:** The survey showed 72.2% of programs design their own readiness guidelines. Many responses allude to ankle flexibility/strength, proper technique/alignment, and the student's experience level as the most crucial factors to consider. 63.6% of dancers have 4-6 years of training and 85.7% are 11-12 years old when starting pointe.

**Conclusion:** In conclusion, no standard guideline for evaluating pointe readiness is currently used at the elite level. However, the literature shows that pointe work is associated with increased risk of injury in dancers. Proper training and adequate readiness before beginning transition to pointe work, helps minimize the risk of injury later in their training. Thus, decreasing the need for long term treatment or potential surgeries in the future. Development of guidelines based on best practices for pointe readiness could benefit young dancers.

### POINTE READINESS CONTRIBUTIONS



**Figure 1:** Pointe readiness is a multifactorial decision, that requires careful consideration. Participants were asked to rank the following factors in terms of greatest importance regarding pointe readiness. About half the participants felt either proper technique or degree of training was the most important factor to consider.

### PRE-POINTE FOOTWEAR

	Soft Shoe	Demi-Pointe Shoe	Pointe Shoe
Components	- Canvas Material - No Outsole	- Satin Material - No Box -No Shank - Full Leather Outsole	- Satin Material - Box - Shank - Full Leather Outsole
Resistance	Minimal	Moderate	Maximum
Justification	- Helps dancers develop proper technique - Reduces the risk of injury - Promotes proper alignment	- Helps to develop strength and ROM of the feet and ankles	- Allows dancer to reach max ankle plantar flexion - Distributes weight over the distal aspect of the toes

**Figure 2:** The figure compares the different types of shoes used by young dancers while training. Demi-pointe shoes are a hybrid between soft and pointe shoes, that are designed to mediate the transition to pointe. They are not standard, their use in pre-pointe training is dictated by instructor preference.<sup>6</sup>

### PERTINENT FINDINGS

- Most elite dance schools (72.7%) develop and utilize their own pointe readiness evaluation criteria.
- 85.7% of respondents say the average age of a young dancer to begin pointe work is 11-12 years old. 63.3% sat the average amount of training is 4-6 years.
- 50% of institutions state that their dancers participate in 3 ballet classes per week when they begin pointe work. While this is the average many students take more.
- Not all institutions require their students to pass specific physical tests to advance en pointe. But, of those that do 40.9% state that the single leg heel raise test is the most predictive of readiness.
- Respondents also allude to the importance of a straight relevé, strong core, and kinesthetic awareness in pointe training.
- Degree of training and proper technique were considered the most important factors when determining pointe readiness of a young dancer.
- 47.6% of respondents indicate that instructors at their program are required to have a teaching certificate, and 61.9% require additional training to teach pointe classes.
- 57.1% of institutions do not require a medical physical before transitioning students en pointe.
- Only 27.3% of institutions have a working relationship with a podiatrist.

### INTRODUCTION

Ballet is a rigorous art form in which athleticism, grace, and aesthetics culminate into a story depicted through movement. Classically trained ballet dancers spend years, pushing their bodies to the extreme to set foot on the professional stage. With the median age of a professional ballerina set at only 27 years old<sup>2</sup>, many young dancers feel urgency to enter the professional realm as early as possible. This results in many young dancers passing milestones prematurely, regardless of their mental and physical maturity. One of these major milestones, especially for female dancers, is the advancement en pointe.

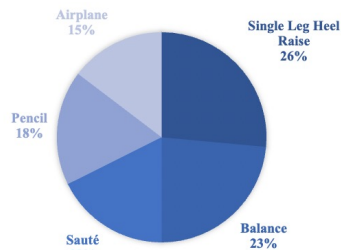
Dancing en pointe, or point work, is the art of dancing on the tips of one's toes, using a special type of shoe. In the United States the average age for a young dancer to advance en pointe is about 11-12 years old. However, it can be as young as 5 years old in other parts of the world.<sup>4</sup> Pointe work takes a toll on the human body, placing 12 times the normal body weight on only the most distal aspect of the digits,<sup>21</sup> and doubles the ground reactive forces (GFR) when landing a jump.<sup>12</sup> It is for this reason that the premature ascension to pointe can be dangerous for a young dancer, increasing their risk of injury and potentially life-long complications.

To date, a single guideline has been proposed to determine pointe readiness, however, these recommendations lack statistical support and were based on outdated sources. Additionally, many pointe readiness determinations are left up to instructors, who have no formal training in this area.<sup>8</sup> The aim of this study is to assess current criteria used to determine pointe readiness of young dancers and to evaluate the need for standardization and improvement upon these guidelines.

### METHODOLOGY

Twenty-two elite dance companies were surveyed across the United States using the RedCap Survey Tool. Programs were selected from Dance Magazine's 2023-2024 Pre-Professional Program Guide. Only elite training programs were included. The survey consisted of multiple-choice answers and free text responses.

### READINESS INDICATOR TESTS



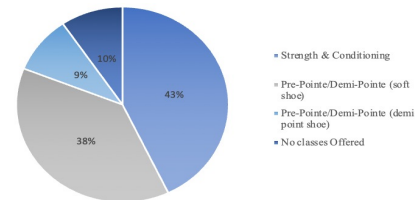
**Figure 3:** Participants were also asked to rank the following physical tests based on their prognostic value for pointe readiness. Dancers are often asked to complete tests such as these with proper technique. Completion of these tests can be extrapolated to adequate strength and alignment to begin pointe work.

A special thanks to all the participants who took the time to complete our survey. Thank you to Charlotte Bolch and everyone in the Midwestern Statistics Department for their help analyzing the data.

### REFERENCES

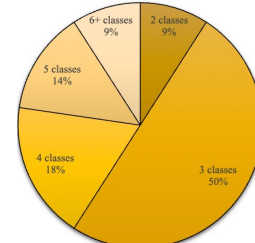
References available upon request

### PRE-POINTE CLASSES OFFERED



**Figure 4:** Most participants indicated that their dancers participate in some form of pre-pointe course before beginning the transition en pointe. Many institutions offer a strength and conditioning course, and the next most common course offered was a pre-pointe course using soft ballet shoes.

### AVERAGE NUMBER OF CLASSES PER WEEK



**Figure 5:** Participants indicated the average number of ballet classes per week students at their institution are taking when they begin the transition en pointe.

### CONCLUSIONS

The advancement to en pointe is a necessary step for young dancers with hopes of a professional dance career. It is also a major milestone and represents years of dedication and hard work. However, pointe work is an advanced form ballet that requires adequate strength, technique, and alignment to avoid unnecessary injuries. The average age of a dancer to transition to pointe is 11-12 years old with about 4-6 years of training completed. Proper technique and adequate training before transitioning en pointe are considered the most important factors to consider when determining readiness. At an elite level, there is no current guideline in place to standardize the advancement en pointe. Currently, this determination is extremely subjective, relying on instructor experience and expertise in this field. While most instructors who teach pointe to young dancers have additional training, much of it comes from professional experience opposed to structured training. In conclusion, there is a need for a protocol to help instructors determine pointe readiness of young dancers. While instructors at an elite institution have the professional experience to safely teach pointe and determine readiness, a guideline would be most beneficial for the recreational dance community, where instructor experience may not be as extensive.

### FUTURE STUDIES

Further studies are currently in place to evaluate the competency and degree of knowledge dance instructors possess regarding pointe shoes and their proper fit. There is also a need to investigate what criteria should be considered from a medical standpoint. For this reason, the design of a survey targeting medical professionals would also provide beneficial information. The data gathered from studies in combination with our results would help further develop a guideline that could help to standardize the determination of pointe readiness.