

# Pole Dance as a Cardiovascular Sport with Positive Psychological Effects

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**Abstract:** Traditionally pole dance has been associated with darkness in pubs, illegal practices of sexual exchanges or other non sportive activities. However, that point of view has tremendously changed the past few years, when pole dance has started to be considered as an aerial sport, such as a lush dancing expression of the body. It has started to be practiced by all kind of persons and with different complexions, giving pleasant execution surprises in some cases. It takes a considerable amount of cardiovascular exercise and breathing control. In a constant schedule it can improve flexibility and strength of disciplined dancers. It also contributes to the self-esteem and self-confidence. Many different practices are taught in Pole dance studies, such as exotic, spinning, advanced, intermediary or basic levels and nice choreographies for a flowing and professional performances. Some risks of injuries might happen and some ways to prevent them are discussed in this brief review. Many new medical papers have been recently published about this topic during these last few years because its interest has considerably increased all around the world. However this information is given without liability for possible disadvantages or damaging during practices. Each dancer is responsible for avoiding his/her own risks. With this brief approach we would aim to change the perspective of this sport to be considered as a salubrious way to increase health as well as to change ideas of negative and non sportive considerations toward it.

**Keywords:** Poledance, Sport, Cardiovascular, Health

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## 1. Description of Pole Dance

The sport of Pole dance as fitness has been established not so long ago in our lives, due to its psychological and physical benefits. Also due to the pandemic and the necessity to find sports activities that can be carried out indoor. It consists of performing postures and dance maneuvers in fluidity and harmony. Dance poles can have static or spinning modes, be portable or permanent, can vary in size height (aprox. 2.2 meters) and thickness (40mm 45mm or 50mm) and be made with different coating or materials (brass, titanium, gold, stainless steel or chrome but also silicon-coated) [1].

It was in 2005 when the first tournament of this sport was held in Amsterdam as a sporting activity in the "first World Championship". Shortly after that, the federations ("International Pole Sport Federation" - IPSF) and other entities started to support the beneficial and sportive nature

of this activity until it became an Olympic sport [2]. The IPSF has described and defined the positions and turns possible in pole dance, some of the most practiced and well-known being "the cupid", "the super girl", "the extended butterfly", "handspring", "extensions", (front "split-down pole" or "cradle spin"), "scissors", "pencil", "shoulder mount", "hangman", "snake", "Daphne", "frog", "plank", "soldier", "yogini", "stargazer", "Gemini", "Scorpion", "Jasmine", "dragonfly", "cocoon", "allegra", "Genie", "Titanic", "Alesia", "tulip", "Eros", among many others with their corresponding variations or adaptations [1, 2]. Each of these postures have a precise definition and it is scored in competitions based on accuracy and correct execution during the performance.

Asking the professional poledancers it is easy to perceive the passion and vocation with sacrifice that this discipline awakens. People who practice it assures that this sport is fun and varied where boredom has no place since you can do

dynamic dance, slow or suggestive dance, dance in combos with fluency tricks, turns, somersaults, etc. The activity of dancing is done with strength exercises following a certain music (classical ballet, hip hop, contemporary dance, break-dance, twerking, etc.) or any other specific choreography that makes sense and visually flows (Figures 1 and 2). This activity reflexes on the mirror a funny and amazing self-image that certainly helps to build healthy self-esteem and self-concepts.

According to the guidelines and directives of the ACSM (The American College of Sports Medicine), the regular practice of pole dance in advanced level classes of one hour can be equivalent to moderate to intense cardiovascular and cardiorespiratory exercise. Its practice involves three blocks: initial warm-up with stretching, study and practice of different postures, and final cool-down with stretching [3].

When this practice is performed at least 30 minutes a day (the range would be 30 to 90 minutes), at least 5 days a week, it can meet the recommended level of exercise requirements to improve health, physical fitness and cardiorespiratory fitness [4]. During its practice and development in a "performance" that does not go beyond 4 minutes in duration with non-stop movements, an activation of the organism is produced. That activation requires high physiological and physical demands, together with an optimal and toned physical state for its execution. Specifically, an increase was measured in blood pressure, heart and respiratory rate, as well as blood lactate concentration and they all increased after each performance [5]. In high-competition poledancers muscle mass and body composition present specific characteristics, which are adjusted and outlined more and more as the more practice executed [3].



*Figure 1. Some examples of specific postures in pole dance. Left side, down line, represent the well known postures extended butterfly and butterfly.*

## 2. How Is the Practice

It is held on a rotating metal bar, usually aluminum, on which the skin is gripped. The brass, titanium or gold poles increase the dance's grip while the other ones are recommended to be used only for certain tricks. Magnesium, alcohol 96°, isopropyl alcohol (for hygiene and optimum grip purposes), are used to improve grip on pole. The outfit has to be appropriate: comfortable clothes that keep uncovered certain body contact areas such as the arms, legs and stomach to reach an optimum grip [1].

The forces that are present are gravity and centrifugal force. The former is distributed as gracefully as possible between the vertical axis of the bar and the physical strength of the person who dances, which is expressed from its horizontal axis and the grip. The latter, rotational force of the bar is also added, which, due to the centrifugation effect, helps the adherence of the skin to the bar and consolidates the posture with the movement against gravity, as well as providing an aesthetic addition by being able to visualize the posture from various angles at a time. Each particular posture is a constant calculation and dialogue between these forces.





**Figure 2.** Visual representation of different movements during a poledance performance. The sense of weightlessness is very appreciated to feel and to express during these movements.

Pole dance combines various physical skills, some of which are also present in other sports such as aerials, Pilates or yoga, or classical dance. Although it also has its own technique and development of specific skills. The strength of the grip of the hands increases progressively and directly proportional to the practice. This climbing ability depends directly on the weight of the body, together with the proprioceptive ability to understand the total posture of the body, and the movement of balancing with the necessary and correct points of grip for stability [6]. Hand grip strength, body composition (muscle mass vs. body fat) as well as balanced postural stability are parameters that progressively improve and increase in terms of fitness with systematic and rigorous practice [7, 8].

This sport is subject to certain risks, most of them due to incorrect infrastructure (not adequate use of magnesium grip, inappropriate outfit that slips, etc.), lack of concentration, consumption of substances that alter self-control (alcohol), uncontrolled impulsiveness or unhealthy competitiveness practices. The possible injuries can range from simple bruises, chafing or skin burns to cervical injuries from falls [9, 10]. Inverted postures are the riskiest because falling on a delicate part of the body, such as the neck and head, with the full weight of the body can be harmful, even if the height is barely one meter from the ground [10]. The presence of another person supervising is not enough to prevent injuries, since it is difficult to predict or avoid the fall, so that the dancing person is rather “alone in the face of danger”. For this reason, the maxims of this sport are: 1) to be elevated from the ground as long as

possible in time without touching the floor in fluidity of flowing movements but also 2) to not falling down nor injure yourself in a constant equilibrium and balance. It is very important to know how far each person who dances wants to go and respect it, providing them with the keys to reach the next step but without pushing. To avoid acute injuries, it is recommended to perform a proper warm-up before exercising pole skills, as well as eating a well-balanced and equilibrated diet [1, 7].

### 3. Conclusions

This new sport is practiced by very well-known celebrities such as Jennifer Lopez, Madonna, Kate Hudson, although the first in the list was Demi Moore. More and more people are being interested and the list continues to grow, with many people varying in qualities, physical complexions or degrees of flexibility. Also guys like Vin Diesel or Kristian Lebedev like to dance in pole. The professionals who compete allow us to visualize the maximum degrees that the human body can reach in this discipline and they are encouraging us to continue practicing and to improve postured and perfecting the technique. Because “turning upside down” is so much fun.

### Credits of Images

Photographs presented in this work come from private files and represent the author in practicing the exercises.

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