



21st CENTURY
PERSONAL TRAINING SCHOOL

Child/Junior Training
WORKSHOP

21st CENTURY PT SCHOOL

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Welcome to Child/Junior Training Workshop

21st Century PT School expert team of advisors and teachers have seen the need to develop a workshop that will give ex-isting personal trainers and coaches the tools needed to give children from the age of 6-16 effective and efficient training in the areas of nutrition, strength training and mental training.

It is no secret that childhood behavioural patterns are hard to break when full adulthood maturity is achieved. Therefore it is vital that good habits are instilled from an early age, especially as the rise of child obesity, eating disorders, lack of exercise and mental problems have been on the increase throughout Europe within this age sector.

During this day, you will learn how to develop a training schedule that will prepare the client for the demands that will be faced in a fast moving world. Subjects to be covered are:

- 1) Behavioural Issues
- 2) Anatomy and Physiology
- 3) Strength Training
- 4) Cardiovascular Training
- 5) Nutrition

Child/Junior Training Workshop – Behavioural Issues

During the years of adolescence we as human beings begin to develop our behavioural norms through the environment to which we are subjected to, with arguably the strongest influences being our family, friends and social surroundings. Research has shown that children and young teens that engage in physical activities not only promote health but also confidence, self-esteem, character and social skills especially in team oriented activities. Depending on the age of your client you will be met with certain challenges with training children and juniors as a trainer:

Ages 6-10: During these years children start to be more self-aware and gradually develop critical thinking skills and basic understanding of complex issues. This is also a time where their self-esteem can be very fragile; some children can be met with challenges within their social environment where they fall outside the category of “normal” within social norms which can create issues with willingness to perform certain activities.

Below is a list of important behavioural points you need to consider when training juniors ages 6-10:

- Make sure you consult with the parents first and foremost to find out if there are any behavioural issues that you should be aware of. Physical activity is compulsory in most schools, ask the parents to get feedback from the gym teacher on their child’s performance and behavior during PE lessons.
- The years 6-10 are a time of trial and error for the child, even though they have basic critical thinking skills and understanding of some complex issues they need clear and direct

instructions on what to do as it can be difficult for them to perform certain tasks while trying to do another. Also take into consideration that their attention span can be very short; make sure to take your time and clearly demonstrate the movement/activity you want them to perform.

- Children of this age are more interested in activities that are fun, rather than because it's healthy. As a trainer it is important to give the child a choice of activities so that they can choose something that interests them. Consulting with the parents may also be a good idea to get a grasp of what activities if any the child enjoys doing or to find an activity which ties into their existing interests.
- Keep the focus on building confidence, celebrate every achievement.
- Talk to the parents to make sure they understand the importance of their influence, having the parents engage in physical activities during leisure time is a good way to make sure the child understands that being active is a normal part of life. This will greatly increase the chances of them being more active in the long term.
- If you notice any abnormal behaviour such as uncontrollable aggression, unwillingness to communicate or anything else out of the ordinary, contact the parents or nearest guardian immediately.

Ages 10-16: This is where most children go through puberty and where most significant behavioural and physical changes can be seen due to the increase of certain hormones. During these years behaviour can be very turbulent, more or less depending on the individual; it is common for pre-teens to experience problems with their temper, and they will also become a lot more sensitive about their body image and are more likely to be self-conscious about their self-image.

Your role as a trainer should be to build confidence in your young client through teaching new skills and activities. This greatly lowers the risk of having problems with self-image, awareness, confidence which unfortunately a lot of children suffer and can lead to serious mental and/or physical health problems such as eating disorders and distorted body images. The same behavioural points mentioned for youths aged 6-10 can also be applied here.

Child/Junior Training Workshop – Anatomy & Physiology

Children from 11-16 are generally relatively fit anatomically and physiologically. The main problem for most children is their low activity patterns; this is very important to consider as patterns of childhood activity greatly determines their future activity patterns as adults. Inactivity is one of the leading causes of many lifestyle diseases we see today. Thus it is vital to tackle the inactivity habit at its source – namely childhood.

As children show considerable and important differences in their bodily responses to exercise, compared to adults, it is important that to be aware of the important differences to avoid unnecessary physical stress on your young client.

Ages 6-10: During these years the child will start to develop their motor-skills and the nervous systems capability in learning new movements enhances rapidly. Although do not expect them to remember long and detailed instructions and expect them to carry it out fully. Focus on visual and verbal instructions in short segments so that they are able to carry out small tasks successfully, rather than partially completing a large task, this will also give a greater sense of achievement and motivation.

The below list outlines several important anatomical and physiological factors that are important to consider when training youths aged 6-10 years old:

- The movement apparatus of children is not fully matured; muscles, bones, tendons and ligaments are still in a process of growth. This is an important factor when considering the length and intensity of exercise bouts. Excessive and severe overload-stress can damage the bones and ligaments before full growth is attained and have negative long-term effects. Focus on body weight exercises with simple movement patterns and keep each exercise bout 15-20 minutes long with regular short rest intervals in between.
- The skeleton of both girls and boys before puberty is largely the same, thus similar exercises and techniques can be applied to both sexes.
- Increase in strength is mainly attributed to improved neuromuscular activity with minimal to no gains in muscle tissue volume.
- Heart rates in children may reach 220-225 before puberty, this is normal so do not worry if you find such high BPM when monitoring their heart rate.

Ages 10-16: During puberty, several important anatomical and physiological changes can be seen which must be considered when training clients in this category.

- During puberty both girls and boys experience “growth spurts” where main differences in the skeleton of boys and girls become apparent; Girls tend to end up with broader hips and boys with broader shoulders with longer and straighter arms. Strength and mass of the skeletal muscles increases rapidly during puberty as well especially in boys. Thus exercises with free weights can be applied for young teens, although focus should still be on full-body, body weight exercises.
- Pubescent girls who may be new to menstruation should receive sympathetic treatment during exercise; if your client is uncomfortable in performing a certain exercise make sure to give them other options or a rest period.
- “Motor-pathways” from the nervous system to skeletal muscles become more effective and learning complex skills and movement becomes easier as they mature into their early teens. This it is important to instill proper technique and movement in exercises as “relearning” faulty recruitment patterns in later stages of life is more difficult and takes longer time and may increase the risk of injury when trying to perform complex exercises.
- Increase in strength for children is mainly attributed to improved neuromuscular activity with minimal to no gains in muscle tissue volume.

- Children produce more heat per kg bodyweight than adults, but their cooling-system is not as effective. Thus it is important to make sure they get adequate rest between intervals of intense exercise especially in high temperatures.

Child/Junior Training Workshop – Strength Training

Appropriately programmed and professionally supervised junior strength training programs offer significant health and fitness value to youths as young as 6 years old. It is commonly said that strength training should be avoided for adolescents due to inhibitions in growth or risk of injury, however there is no scientific research that supports these assumptions. Recent studies have even shown that youths who participate in regular strength training have lower risk of injury in the additional sports or activities they participate in compared to youths who do not due to enhancing muscular strength and muscular endurance, a regular strength training program has positive influences on aerobic fitness, body composition, blood lipids, bone mineral density, and motor performance skills which leads to overall improved performance and reduced risk of injuries when participating in other activities.

Below are guidelines for supervising, structuring and designing strength training program for youths aged 6-16 years of age:

- Always consult with the youth's parents and a physician before beginning any exercise program.
- Make sure your client is always under close supervision; never leave them alone while exercising as this can result in accidents and injury.
- Design the program to appropriately match the youths past and recent abilities; a strength training program for a young athlete would be inappropriate for an inactive child who should be given a program more focused on the experience and enjoyment of different types of strength exercises in less competitive environment.
- Focus on whole-body strength exercises with compound and functional movements.
- Focus on developing skills and technique before load and intensity is applied.
- Body weight exercises should be the focus for ages 6-12, simple equipment such as medicine balls and resistance bands with light loads and tension may be appropriate for certain exercises.
- Your client should be comfortable in moving and performing exercises with their own body weight before moving on to external load.
- 1 set of 10-15 reps for beginners
- 1-3 sets of 6-15 reps for more advanced youths
- Proper recovery is essential in all athletes. Make sure you are aware of all other playing and training commitments and structure your program to allow for adequate recovery. Allow at least 24-48 hours between sessions with 1-3 sessions per week.
- Make sure your client is confident in their abilities before progressing to more advanced levels. Basic fitness tests can be appropriate to determine if they are ready to progress.
- Proper recovery is essential in all athletes. Make sure you are aware of all other playing and training commitments and structure your program to allow for adequate recovery.

- 1) Body weight squats
- 2) Medicine ball throws
- 3) Frog jumps
- 4) Floor crawls
- 5) One legged hops
- 6) Monkey mountain climbers
- 7) Yoga push-ups
- 8) Crab walk
- 9) Bodyweight lunges
- 10) Bosu ball jack knife
- 11) Plank
- 12) Bosu ball plank

Child/Junior Training Workshop – Cardiovascular Training

Children who have not reached puberty yet have a limited capacity in improving their aerobic abilities compared to those who have reached puberty where improvements in the child's ability to use oxygen increase rapidly and more progressive changes can be made.

Although prepubescent children have a limited capacity in improving their aerobic capacity it is not to say that cardiovascular training is not beneficial. There is strong evidence that young children with a good foundational base of aerobic exercise can have even better improvements in aerobic ability once they reach puberty than those who start cardiovascular training at a later age and also benefit from improved technique and efficiency of movement, maturing coordination, and growing motivation.

Below are guidelines for supervising, structuring and designing cardiovascular training program for youths aged 6-16 years of age:

- High intensity interval training (HIIT) has shown to be the most effective cardiovascular training method for prepubescent children as adults.
- Heart rate zone should be kept at 70-85% of heart rate maximum.
- The same formula used to calculate HRM for adults can also be applied for children:
Boys: 220-Age
Girls: 226-Age
- Always use a heart rate monitor to monitor the intensity of the training session. It is also important to monitor the intensity through perceived exertion. This can be done simply by talking to the client. If the client can speak without pausing for breaths then the intensity is at an acceptable range. If the client is short of breath and needs to pause several times before speaking then the activity might be too intense.
- Keep HIIT exercise sessions to 20-30 minutes.

- As mentioned in the strength training section of this manual, training should be fun and exciting to keep the child motivated. Below are a list of fun exercises that can be used to increase cardiovascular fitness in children aged 6-16 years old.
- Using appropriate music is a great way to keep the child motivated and the training fun.

Always start the sessions with a warm-up session consisting of:

- Marching
- Running on the spot
- Side steps
- Arm rotations
- Jumping jacks

Example of a basic cardiovascular training program for kids:

- Box hops (Reebok bench)
- Bosu ball jumps
- Jumping rope
- Hopping on one leg
- Side steps
- Hurdles

To incorporate HIIT style training, you can use the above mentioned warm-up exercises as active rest between the main body of exercises.

Child/Junior Training Workshop – Nutrition

Many of the lifestyle diseases we see today caused by poor nutrition in adults are becoming ever more apparent in children throughout Europe. Obesity levels are rising in children due to overconsumption of processed food containing too much sugar and fat and due to the fact that a lot of leisure time activities for children involve staying inside watching TV or playing computer games. This is partly due to the stressful lived of many parents who may not have time to prepare well balanced meals containing whole foods, but also due to that for every generation, parents are becoming more adapted to the more modern lifestyle of fast- & processed foods which are often applied to their children. Thus it is crucial to involve the parents when making nutritional recommendations and changed in your young client.

As with exercise it is crucial to instill good eating habits in children at a young age so that these habits are held throughout adulthood. Below are nutritional guidelines for active children:

- Always consult with a paediatrician or doctor before applying any nutritional recommendations.
- Consult with the child's parents to get information on the child's eating habits at home and at school.
- Focus on whole foods and well balanced meals and eliminate processed foods as much as possible as these are often high in sugar and bad fats.



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