

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

**PREPARED BY NERVEEN ABD EL SALAM ABD EL KADER AHMED**

**Physical Therapy Department for Growth and  
Development Disorder in children and Its Surgery**

**Master Degree 2020**

<b>Author</b>	:	Ahmed Abdel Raouf Abdel Maged Allam.
<b>Title</b>	:	Effect Of Inclined Squat Position On The Lower Limb Muscles Neuromuscular Activity In Normal Children.
<b>Dept.</b>	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
<b>Supervisors</b>	1.	Emam H. Elnegmy.
	2.	Mostafa H El Sherbeny.
	3.	Mahmoud S. El Fakharany.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2020.
<b>Abstract</b>	:	
<p><b>Background:</b> Benefits associated with squat performance are not limited to the athletic population. Given that most activities of daily living necessitate the simultaneous coordinated interaction of numerous muscle groups, the squat is considered one of the best exercises for improving quality of life because of its ability to recruit multiple muscle groups in a single maneuver. <b>Purpose of the study:</b> is to determine the effect of inclined squat position on the Vastus Medialis oblique (VMO) and Gluteus Maximus (GM) at the different ankle angles 5° – 10° degrees of inclination in Normal Children. <b>Objective:</b> To determine the effect of inclined squat position on the vastus medialis oblique (VMO) and gluteus maximus (GM) at the different ankle angles 5°-10° degrees of inclination in normal children. <b>Subjects and methods:</b> thirty non-athletic children of both genders, age ranged from 14 to 18 years, were selected from the Egyptian governmental schools at Sixth of October City and Sixth of October Sporting Club. The maximum voluntary isometric contraction (MVIC) was measured after the electrodes were attached to the GM and the VMO of the subject during squat postures which applied on two inclined borders 5 and 10 degree of inclination; the feet are spread out shoulder width, hip 70° flexion, knee 75° flexion and in the erect posture. <b>Results:</b> There was a significant increase in the VMO activity in 5° ankle angle compared with that of 10° ankle angle (p = 0.0001). There was a significant decrease in the GM activity in 5° ankle angle compared with that of 10° ankle angle (p = 0.0001). <b>Conclusion:</b> modification of ankle dorsiflexion during squat position should be integrated in the rehabilitation programs of the different injuries.</p>		
<b>Key words</b>	1.	Squat Position.
	2.	Isometric contraction.
	3.	Electromyography.
	4.	Muscles Activity,
	5.	Lower Limb Muscles.
	6.	Normal Children.
<b>Classification number</b>	:	000.000.
<b>Pagination</b>	:	81 p.
<b>Arabic Title Page</b>	:	تأثير وضع القرفصاء على النشاط العصبي لعضلات الاطراف السفلية عند الأطفال الأصحاء.
<b>Library register number</b>	:	7213-7214.

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<b>Author</b>	:	<b>Alaa Mohamed Hassan Al Qazzaz.</b>
<b>Title</b>	:	<b>Detection of Motor Unit Potentials of Shoulder Retractors in Children with Rounded Back.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Khaled Ahmed Olama.</b>
	2.	<b>Radwa Saeid Abdul Rahman.</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Introduction:</b> Poor posture is unfortunately wide spreading not only among adults but also among children. Continual exaggeration of the spinal curves leads to postural impairments and muscle strength and flexibility imbalances as well as soft tissue restrictions or hypermobility. <b>Objectives:</b> To detect the effect of rounded back posture on the count, duration and amplitude of motor unit potentials (MUPs) of middle trapezius. <b>Patients and Methods:</b> Thirty children age ranged from 7 to 10 years of both gender, 15 normal and 15 children with rounded back, were included in this study. The children were assessed using the Plumb line to evaluate the presence of round shoulders. the middle trapezius MUPs of both the right and left sides were recorded while performing the extension MVIC test, using Neuro EMG apparatus from Neurosoft©. Data obtained from both groups regarding MUPs count, duration and amplitude of right and left middle trapezius were statistically analyzed and compared. <b>Results:</b> The results of this study suggested that there was a significant increase in the right middle trapezius MUPs count of the rounded back group compared with that of the normal group. As regards to the middle trapezius MUPs duration, there was no significant difference between the two groups. However, the middle trapezius MUPs amplitude displayed a significant difference between the two groups. Children with rounded back had higher middle trapezius amplitude than that of the normal children. <b>Conclusion:</b> It is concluded that forward shoulder posture is accompanied by atypical middle trapezius MUPs characteristics. Thus, it's concluded that forward shoulder posture may become a potential risk factor evoking the various shoulder disorders.</p>		
<b>Key words</b>	1.	<b>Rounded back.</b>
	2.	<b>Middle trapezius, EMG.</b>
	3.	<b>MUPs.</b>
	4.	<b>Motor Unit Potentials of Shoulder Retractors.</b>
	5.	<b>Children with Rounded Back.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>78 p.</b>
<b>Arabic Title Page</b>	:	<b>الكشف عن قدرات الوحدة الحركية لعضلات ضم الكتفين للخلف لدى الأطفال الذين لديهم ظهر مستدير.</b>
<b>Library register number</b>	:	<b>7029-7030.</b>

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<b>Author</b>	:	Amira Mohamed Mahmoud.
<b>Title</b>	:	Touch screen usage time in relation to child development in preschoolers.
<b>Dept.</b>	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
<b>Supervisors</b>	1.	Amira Mohamed El-Tohamy.
	2.	Amira Mahmoud Abd-Elmonem.
<b>Degree</b>	:	Master.
<b>Year</b>	:	2020.
<b>Abstract</b>	:	
<p><b>Background/aim:</b> Recent literatures are associating digital technology extensive and addictive use with physical, psychosocial and cognitive inverse consequences. This research focuses more on the relation between touch screen usage and child development in preschoolers. Subjects and methods: 97 typically developing preschool children of both genders with age ranges from three to five years participated in this study. Visual motor integration, quality of life and cognitive function were assessed by the Peabody Developmental Motor Scale, the Pediatric Quality of Life Inventory™ and the Pediatric Quality of Life Inventory™ cognitive functioning scale respectively. Results: The measured variables showed moderate negative significant correlations regarding the number of touch screen devices and usage time. While the age of starting use touch screen device showed moderate positive significant correlation to visual motor integration and weak positive non-significant correlation to quality of life and cognitive function (p&lt;0.05). Conclusion: Based on the results of the current study we can conclude that, increase touch screen usage time and availability of several devices adversely affect the child development in preschoolers. These findings have implications for child-development practitioners promote the health and development of preschool children by providing empirical knowledge about health education, appropriate play, entertainment, and learning activities</p>		
<b>Key words</b>	1.	Cognitive development
	2.	Digital devices
	3.	Quality of Life Inventory
	4.	Visual motor integration
	5.	child development in preschoolers.
<b>Classification number</b>	:	000.000.
<b>Pagination</b>	:	106 p.
<b>Arabic Title Page</b>	:	وقت شاشة اللمس وعلاقته بنمو الطفل في مرحلة ما قبل المدرسة.
<b>Library register number</b>	:	7079-7080.

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DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	Amr Abd El Aty Mohammad Hamada.
<b>Title</b>	:	The Effect of Hand Sensory Stimulation on Manual Ability in Children With Unilateral Spastic Cerebral Palsy.
<b>Dept.</b>	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
<b>Supervisors</b>	1.	Faten Hassan Abd El-Azeim
	2.	Alaa Fahmy Hassan Al-Nemr
	3.	Walaa Mohamed El Naggar
<b>Degree</b>	:	Master.
<b>Year</b>	:	2020.
<b>Abstract</b>	:	
<p><b>Background:</b> Deficient manual ability is common problem in unilateral spastic cerebral palsy children. These children have disturbance of manual ability which is the capacity to manage daily upper limb activities and interfering with doing the fundamental functions. Children with USCP commonly exhibit sensory deficiencies in their hands which is the main cause of deficient manual ability. <b>Purpose:</b> To investigate the effectiveness of hand sensory stimulation on the manual ability in children with unilateral spastic cerebral palsy. <b>Patients and methods:</b> Study design; It is a Randomized controlled trial (RCT), Twenty four children with USCP from both sexes (5 girls and 19 boys) with age ranged from (6-8y) were recruited from Abou El-Reesh Hospital and conducted in department of physical therapy and randomly assigned into two groups (control and study) equal in number (n=12). Control group received only traditional exercise (stretching, strengthening and Fine motor exercises) 30 minutes, 3 times, per week for 6 weeks; the study group received traditional exercise and hand sensory stimulation (HSS) in the form of painting on hand for 30 minutes, 3 times per week for 6 weeks. The outcome measures were ABILHAND-Kids questionnaire and Quality of Upper Extremity Skills Test. These outcomes were assessed before and after 6 weeks. <b>Results:</b> There were a significant difference between study group and control group. The manual ability improved significantly more in study group in comparison to control group. <b>Conclusion:</b> It was concluded that Hand sensory stimulation (painting on hand) had a significant effect on manual ability in children with unilateral spastic cerebral palsy.</p>		
<b>Key words</b>	1.	Unilateral spastic cerebral palsy
	2.	Hand
	3.	Sensory stimulation
	4.	Manual ability.
	5.	Children With Unilateral Spastic Cerebral Palsy
<b>Classification number</b>	:	000.000.
<b>Pagination</b>	:	88 p.
<b>Arabic Title Page</b>	:	تأثير الإستثارة الحسية لليد علي القدرات اليدوية في الأطفال المصابين بالشلل التقلصي النصفي.
<b>Library register number</b>	:	7091-7092.

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<b>Author</b>	:	<b>Eman Hassan Mahmoud Ezzat.</b>
<b>Title</b>	:	<b>Effect of Respiratory Therapy on Pulmonary Functions in Children with Cerebral Palsy: Systematic review.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Eman Ibrahim Elhadidy</b>
	2.	<b>Walaa Mahfouz Ali</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Children with cerebral palsy (CP) are at risk for respiratory dysfunction. Early initiation of pulmonary rehabilitation in addition to conventional physical therapy may result in improvement and maintenance of chest mobility and respiratory function. However, empirical support for respiratory therapy is limited. The aim of the review was to assess the evidence of the effectiveness of respiratory therapy on pulmonary functions in children with CP. <b>Methods:</b> Four electronic databases (PubMed, Cochrane Library, Physiotherapy Evidence Database (PEDro), and Google Scholar) were searched till December 2019 using predefined terms by two independent reviewers. Randomized controlled trials published in English were included if they met the following criteria; <b>population:</b> children with different types of CP of both sex, aged up to 18 years, <b>Intervention:</b> respiratory therapy, <b>Outcomes:</b> pulmonary functions. Predefined data were tabulated using American Academy for Cerebral Palsy and Developmental Medicine by two reviewers and verified by third reviewer. Methodological quality was assessed using rating system of AACPDm quality assessment and PEDro scale; also levels of evidence adopted from Sacket's scale were used for each study. <b>Results:</b> Eight studies with 235 participants met the inclusion criteria and were included in this review. They provide moderate to strong quality evidence to support the effectiveness of respiratory therapy. Meta-analysis was done for all included studies and showed significant effect of respiratory therapy on vital capacity, peak expiratory flow, forced expiratory volume at 1 second in children with CP. <b>Conclusions:</b> This systematic review revealed moderate to strong evidence. It supports the effectiveness of respiratory therapy on pulmonary functions in children with CP.</p>		
<b>Key words</b>	1.	<b>cerebral palsy,</b>
	2.	<b>pulmonary functions.</b>
	3.	<b>respiratory therapy,</b>
	4.	<b>systematic review.</b>
	5.	<b>Children with Cerebral Palsy.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>116 p.</b>
<b>Arabic Title Page</b>	:	<b>تأثير العلاج التنفسي على وظائف الرئة في الأطفال المصابين بالشلل الدماغي : دراسة منهجية.</b>
<b>Library register number</b>	:	<b>7243-7244.</b>

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DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Eslam Mohamed Mahmoud.</b>
<b>Title</b>	:	<b>Ultrasonography and Dynamometer Correlation in Muscle Strength Measurement of Hemiplegic Cerebral Palsy Children.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Emam Hassan El-Negmy</b>
	2.	<b>Mohamed Ismail Ellassal</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Cerebral palsy (CP) describes a group of permanent disorders of movement and posture development, causing activity limitations attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. <b>Purpose:</b> This study was conducted to investigate and correlate between Ultrasonographic readings (thickness and pennation angle) and Dynamometer in hemiplegic cerebral palsied children. <b>Subjects and materials:</b> There was only one group that include 40 hemiplegic cerebral palsied children of both sexes. Their ages ranged from Four to Nine years, recruited from the outpatient clinic, Faculty of Physical Therapy Cairo university and National Institute of Neuromuscular Disorders. All parents of children signed a consent form. Ultrasonography was used to assess pennation angle and muscle thickness while dynamometer used to assess quadriceps muscle strength. <b>Results:</b> Children aged <math>6.67 \pm 1.58</math> years, there were strong direct correlations between affected and less affected sides (0.967, 0.946 and 0.953) regarding pennation angle, muscle thickness and muscle strength respectively. Also, there were moderate correlations between strength and pennation angle (.367 and .434) in affected and less affected side and no correlation between muscle strength and muscle thickness either in less affected or affected side respectively. Also, there is statistically significant difference between affected and less affected regarding pennation angle, muscle thickness and muscle strength (<math>P &lt; 0.000</math>). <b>Conclusion:</b> It could be concluded that there was difference in muscle strength and architecture between affected and non-affected side in hemiplegic cerebral palsied children, there were strong direct correlations between affected and less affected sides (0.967, 0.946 and 0.953) regarding pennation angle, muscle thickness and muscle strength respectively. Also, there were moderate correlations between strength and pennation angle (.367 and .434) in affected and less affected side. so, we can somehow predict muscle strength from pennation angle as there is moderate correlation between them.</p>		
<b>Key words</b>	1.	<b>Ultrasonography.</b>
	2.	<b>.Dynamometer.</b>
	3.	<b>Muscle thickness.</b>
		<b>Hemiplegic cerebral palsied children.</b>
	4.	<b>Muscle Strength.</b>
	5.	<b>Muscle pennation angle.</b>
	6.	<b>Children with Cerebral Palsy.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>120 p.</b>
<b>Arabic Title Page</b>	:	<b>العلاقة بين الموجات فوق الصوتية و الديناموميتر في قياس قوة العضلة لدى أطفال الشلل الدماغي المصابين بالفالج الشقي التشنجي.</b>
<b>Library register number</b>	:	<b>7055-7056.</b>

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<b>Author</b>	:	<b>Hanaa Shaker Hamdy.</b>
<b>Title</b>	:	<b>Correlation between body mass index and angular deformities of the knee joint in obese children.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Samah Attia El Shemy.</b>
	2.	<b>Hassan Magdy El-Barbary.</b>
	3.	<b>Asmaa Osama Sayed.</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Objectives:</b> This study aimed to assess the alignment of the knee joint in overweight and obese children, compare their findings with normal weight children and to detect the relationships between knee joint deformities and body mass index. <b>Methods:</b> 220 children from both sexes and aged from 8 to 12 years participated in this study. Children were divided according to body mass index into 3 groups including normal, overweight and obese groups. The tibiofemoral and knee hyperextension angles were measured by using a computer aided design (AUTO CAD) program also the intermalleolar and intercondylar distances were assessed for all children. <b>Results:</b> Significant differences were statistically found in the tibiofemoral angle, intermalleolar distance and knee hyperextension angle among the 3 groups with greater values in obese children. Additionally, non-significant difference was found in intercondylar distance. Significant correlations were observed between tibiofemoral angle with intermalleolar distance in the 3 groups and with intercondylar distance in overweight and obese children also, between body mass index and intermalleolar distance as well as knee hyperextension angle in overweight and obese children and a non-significant correlation was also found between body mass index and tibiofemoral angle in the 3 groups. Significant differences were observed between girls and boys in tibiofemoral angle in the 3 groups and in intercondylar distance in normal children. <b>Conclusion:</b> It was concluded that increased body mass index in children may result in adverse effects on the knee joint in the form of genu valgus and recurvatum which may advance to sever deformities later in life if body mass index is not controlled.</p>		
<b>Key words</b>	1.	<b>Body mass index.</b>
	2.	<b>Hyperextension angle.</b>
	3.	<b>tibiofemoral angle.</b>
	4.	<b>Knee joint deformities.</b>
	5.	<b>Obese children.</b>
	6.	<b>Children.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>127 p.</b>
<b>Arabic Title Page</b>	:	<b>العلاقة بين معدل كتلة الجسم وتشوهات الركبة في الأطفال البدناء.</b>
<b>Library register number</b>	:	<b>7215-7216.</b>

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<b>Author</b>	:	<b>Heba Khudair Abd El Mageed.</b>
<b>Title</b>	:	<b>Tactile Defensiveness and Fine Motor Skills in Children with Attention Deficit Hyperactivity Disorder.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Gehan Mosaad Abd El-Maksoud</b>
	2.	<b>Emad Abd El- Maksoud Mabrouk</b>
	3.	<b>Ebtesam Mohamed Fahmy</b>
	4.	<b>Abd El-Hamied Ibrahim El-Sayed Mohammad</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Many children with attention deficit hyperactive disorder (ADHD) suffer from associated tactile defensiveness (TD) which affects their daily living activities and school development. <b>Purpose:</b> To examine relation between tactile defensiveness and fine motor skills in children with ADHD. <b>Methods:</b> Twenty five children with ADHD associated with TD from both sexes aged from 6 to 10 years were participated in this study. They were selected from Abo-El-Reesh Children Hospital and High Degree Academy in 6<sup>th</sup> October city. Tactile defensiveness was assessed by Touch Inventory for Elementary-School-Aged Children and Sensory Profile and fine motor skills were assessed by Bruininks- Oseretsky Test of Motor Proficiency, Second Edition (BOT-2). <b>Results:</b> There was statistically weak negative non-significant correlation between TD and fine motor skills in children with ADHD (P &gt;0.05). <b>Conclusion:</b> There was a weak negative relationship between TD and fine motor skills in children with ADHD.</p>		
<b>Key words</b>	1.	<b>Attention deficit hyperactivity disorder.</b>
	2.	<b>Fine motor skills.</b>
	3.	<b>Tactile defensiveness.</b>
	4.	<b>Children with Attention Deficit Hyperactivity Disorder</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>86 p.</b>
<b>Arabic Title Page</b>	:	<b>الإضطراب الحسي والمهارات الحركية الدقيقة لدى الأطفال المصابين بقصور الانتباه وفرط الحركة.</b>
<b>Library register number</b>	:	<b>7067-7068.</b>



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<b>Author</b>	:	<b>Heba Khaire Mahmoud Abdullah.</b>
<b>Title</b>	:	<b>Assessment of Oro-Motor Functions and Gross Motor Abilities in Spastic Cerebral Palsy.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Eman Ibrahim El Hadidy</b>
	2.	<b>Gehan Mosaad Abd El-Maksoud</b>
	3.	<b>Asmaa Ahmed Abd El Hamed</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> The oral feeding and swallowing is complex and integrated function which is affected in most of cerebral palsy children and consider major risk factor of morbidity. <b>Aim:</b> to determine relation between oral motor functions and gross motor abilities in children with spastic CP and also to compare the oral motor functions among subtypes of spastic CP. <b>Materials and Methods:</b> One hundred children with different types of spastic CP participated in the study and their ages ranged from one to four years. The oral motor functions and gross motor abilities were evaluated using Schedule for Oral motor assessment (SOMA) and gross motor functional measure scale (GMFM) respectively. <b>Results:</b> There was direct positive correlation between total score of SOMA and total score GMFM . There were direct positive correlation between SOMA categories and GMFM, as between GMFM scale and puree, GMFM scale and semi-solids, GMFM scale and solid , GMFM scale and cracker , and GMFM scale and cup While no significant correlation between GMFM scale and bottle, GMFM scale and trainer-cup. There were differences in results of SOMA scoring in subtypes of CP <b>Conclusion:</b> There was a strong significant correlation between oral motor functions and gross motor abilities in children with spastic CP</p>		
<b>Key words</b>	1.	<b>Cerebral Palsy.</b>
	2.	<b>Oral Motor Functions.</b>
	3.	<b>Gross Motor Abilities.</b>
	4.	<b>Children with Cerebral Palsy.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>99 p.</b>
<b>Arabic Title Page</b>	:	<b>تقييم الوظائف الحركية الفموية والوظائف الحركية الكبرى في الأطفال المصابين بالشلل الدماغي التشنجي.</b>
<b>Library register number</b>	:	<b>6981-6982.</b>

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<b>Author</b>	:	<b>Khadega Hossam El-Deen Hussen.</b>
<b>Title</b>	:	<b>Effect of Using kinesio Tape Over Wrist Extensors Activation In Children With Erbs' Palsy.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Emam Hassan El-Negamy</b>
	2.	<b>Amina Salem Hendawy</b>
	3.	<b>Mona Nabil Mohamed Ayad</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p>The purpose of this study was to investigate the effect of using Kinesio tape over wrist and finger extensors activation in children with unilateral Erb's palsy .This study was conducted on thirty children of both sexes (16 girl and 14 boy) having unilateral Erb's palsy, their ages ranged from one month to one year. They were selected from the out-patient clinic, Faculty of Physical Therapy, Cairo University from 14-1-2020 to 14-4-2020. The children's percentage of degeneration of radial nerve was evaluated by using Electroneurographytechnique before and after three months of treatment programme. The children wereclassified randomly into two groups of equal number. Group A (control) received a selected physical therapy program, where group B (study) received the same exercise program given to group A, in addition to Kinesio taping over wrist and fingers extensors. The results of this study revealed significant improvement in the percentage of degeneration of the two groups (A and B), when comparing their pre and post-treatment mean values. Significant difference was also observed when comparing the post-treatment results of the two groups in favor of the study group. From the obtained results of this study it could be concluded that using kinesio taping in conjunction with designed physical therapy program has significant effect on wrist and finger extensors recovery of Erb's palsy patients.</p>		
<b>Key words</b>	1.	<b>Kinesio taping.</b>
	2.	<b>Wrist extensors.</b>
	3.	<b>Erb's palsy</b>
	4.	<b>Children With Erbs' Palsy.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>62 p.</b>
<b>Arabic Title Page</b>	:	<b>تأثير استعمال الشريط اللاصق على تنشيط عضلات فرد اليد فى الاطفال المصابين بملخ الولادة.</b>
<b>Library register number</b>	:	<b>7319-7320.</b>

**ELECTRONIC GUIDE TO THESE APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Mohamed Hanea Ahmed.</b>
<b>Title</b>	:	<b>Assessment of Pulmonary Functions in Children According to the Body Mass Index.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Samia Abdel Rahman Abdel Rahman</b>
	2.	<b>Radwa Saeid Abdulrahman</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background and Objective:</b> Overweight and obesity became common among schoolchildren and adolescents. The relationship between obesity or overweight and pulmonary functions have not been investigated in children aged from 7-9 years previously. Therefore, we aimed to compare pulmonary functions among normal, overweight and obese schoolchildren. <b>Methods:</b> Ninety schoolchildren classified according to gender into 44 boys and 46 girls from primary schools of Shebin Elkom, Monoufia governorate with age range of 7-9 years participated in the study. They were classified into three equal groups; normal, overweight and obese according to their body mass index (BMI) for-age percentile. Forced vital capacity (FVC), forced expiratory flow rate in one second (FEV1), FEV1/FVC ratio and peak expiratory flow rate were measured by spirometer. <b>Results:</b> There were statistically non-significant differences in all of the measured variables (<math>p&gt;0.05</math>) among normal, overweight and obese children. Results also revealed no statistically correlation between the pulmonary functions and BMI or BMI for-age percentile. <b>Conclusion:</b> Overweight and obesity has no effect on pulmonary functions in children aged from 7 to 9 years.</p>		
<b>Key words</b>	1.	<b>Obesity.</b>
	2.	<b>Body Mass Index.</b>
	3.	<b>Body mass index for-age percentile.</b>
	4.	<b>Pulmonary functions.</b>
	5.	<b>Children.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>123 p.</b>
<b>Arabic Title Page</b>	:	<b>تقييم وظائف التنفس في الأطفال وفقا لمؤشر كتلة الجسم.</b>
<b>Library register number</b>	:	<b>7119-7120.</b>

**ELECTRONIC GUIDE TO THESE APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	Mohammed Mahmoud El Sayeh.
<b>Title</b>	:	Effect of Serial Casting on Equines Deformity in Children with Cerebral Palsy: Systematic Review.
<b>Dept.</b>	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
<b>Supervisors</b>	1.	Samia Abdel Rahman Abdel Rahman
	2.	Ehab Mohamed Abd Elkafy
		Mahmoud Samir El fakharany
<b>Degree</b>	:	Master.
<b>Year</b>	:	2020.
<b>Abstract</b>	:	
<p><b>Background:</b> Equinus foot seen in children with cerebral palsy is one of the causes of gait deformity. Serial casting is one of the physical therapy procedures provided for cerebral palsy children with equinus deformity. <b>Aim:</b> systematically review the studies that assessed the effectiveness of serial casting on equines deformity in children with cerebral palsy. <b>Methods:</b> Studies were identified from 2008 to 2019 by electronic search using PubMed, Cochrane Database of Systematic Reviews, Google Scholar and Physiotherapy Evidence Database (Pedro). They were reviewed if they were randomized control trials focused on cerebral palsy children range in age from 2 to 17 years with equinus deformity treated using serial casting and being published in English. The primary outcome measure was spasticity. Data was extracted from the included studies and its methodological quality was evaluated using PEDro scale. <b>Results:</b> Four trials were identified with good quality methodology. Descriptive analysis was applied for one study that supported the use of serial casting for those patients and meta-analysis was applied for three studies. The mean difference across all of the three studies is -0.69 (95% CI -0.93, -0.45). According to AACPD, there is level II evidence that support the use of serial casting as a method to control spasticity, increase ankle range of motion and improve gait in cerebral palsy children with equinus deformity. <b>Conclusion:</b> The current level of evidence support the effectiveness of serial casting for modulating spasticity and improving equinus deformity in children with cerebral palsy.</p>		
<b>Key words</b>	1.	Serial casting.
	2.	Cerebral palsy.
	3.	Equines Deformity.
	4.	Systematic Review.
	5.	Spasticity.
	6.	Children with Cerebral Palsy.
	7.	Scissoring and Gait.
<b>Classification number</b>	:	000.000.
<b>Pagination</b>	:	104 p.
<b>Arabic Title Page</b>	:	تأثير استخدام سلسلة من الجبائر على سقوط مشط القدم للأطفال المصابين بالشلل الدماغي: دراسة منهجية.
<b>Library register number</b>	:	7313-7314.

**ELECTRONIC GUIDE TO THESE APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Nashwa Abdullah Mahmoud Soliman.</b>
<b>Title</b>	:	<b>Establish Registry of Cerebral Palsy in Kafrelsheikh Governorate-Egypt.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Samia Abdel Rahman Abdel Rahman</b>
	2.	<b>Amany Mousa Mohamed</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> The prevalence of cerebral palsy as one of the most common causes of childhood physical disability is high in developing countries. <b>Purpose:</b> To establish a registry of cerebral palsy in Kafrelsheikh governorate. <b>Methods:</b> One hundred and three children with cerebral palsy of both genders who were receiving physical therapy in Kafrelsheikh governorate (except Kafrelsheikh city) participated in the study. Their ages ranged from one month to 18 years. They were subjected to the modified Australian Registry Form. This study was conducted from August 2018 up to October 2019. <b>Results:</b> The findings revealed that the prevalence of children with cerebral palsy who received physical therapy services was 1/10000 live births in Kafrelsheikh Governorate. The results showed that the common type of cerebral palsy was the spastic hemiplegia (28.2% with right hemiplegia and 25.2% with left hemiplegia). Results revealed that cerebral palsy was of higher frequency among girls than boys. There is no correlation between motor ability and gestational age, gender as well as birth weight (<math>p&gt;0.5</math>). Same correlation was found regarding the manual and speech abilities. <b>Conclusion:</b> Prevalence of cerebral palsy in Kafrelsheikh Governorate is low. Spastic type of cerebral palsy has the highest frequency especially spastic hemiplegic type.</p>		
<b>Key words</b>	1.	<b>Prevalence.</b>
	2.	<b>Australian Registry Form.</b>
	3.	<b>Registry.</b>
	4.	<b>Cerebral Palsy.</b>
	5.	<b>Kafrelsheikh Governorate-Egypt.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>117 p.</b>
<b>Arabic Title Page</b>	:	<b>تسجيل مرضي الشلل الدماغي في محافظة كفر الشيخ - مصر.</b>
<b>Library register number</b>	:	<b>7267-7268.</b>

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Nawal Youssef Elsayd.</b>
<b>Title</b>	:	<b>Effect of Augmented Feedback on Dynamic Balance in Children With Brain Tumors.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Manal Salah Abdelwahab</b>
	2.	<b>Zeinab Ahmed Hussein</b>
	3.	<b>Emad Nabil Ebeid</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background: Aim:</b> The purpose of this study was to determine the effect of augmented feedback on dynamic balance in children with medulloblastoma after surgical resection. <b>Subjects and procedures:</b> The study was conducted on thirty children of both sexes (17 boy and 13 girls) with ages ranged from 6 to 12 years. They were selected from National cancer institute Cairo University, the recommended children were classified randomly and equally to control and study groups children in control group received designed physical therapy program for improving dynamic balance. While children of study group received the same physical therapy program while wearing pedometer as a source of augmented feedback. The children were evaluated using pediatric balance scale and pedometers for evaluating balance, cadence and speed before and after 8 weeks of treatment. <b>Application results:</b> The results revealed a statistically significant difference in a favor of study group. <b>Conclusion:</b> From the obtained results of this study it could be concluded that using of pedometer as source of augmented feedback maybe beneficial in treatment procedures and had significant effect on improvement dynamic balance in children with medulloblastoma after surgery.</p>		
<b>Key words</b>	1.	<b>Augmented Feedback</b>
	2.	<b>Dynamic Balance</b>
	3.	<b>Children With Brain Tumors</b>
	4.	<b>Brain Tumors.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>87 p.</b>
<b>Arabic Title Page</b>	:	<b>تأثير التغذية المرتجة على التوازن الديناميكي عند الأطفال المصابين بأورام الدماغ.</b>
<b>Library register number</b>	:	<b>7305-7306.</b>

**ELECTRONIC GUIDE TO THESES APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Noura Salah Mohamed.</b>
<b>Title</b>	:	<b>Relationship Between Language and Gait Kinematics in Children with Autism Spectrum Disorder.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Amira Mohamed El Tohamy</b>
	2.	<b>Neveen Hassan Nashaat</b>
		<b>Mona Nabil Ayad</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Motor disruption may be impactful for children with Autism Spectrum Disorder. Studies of neurotypical children found links between motor and communicative development. If these domains are similarly related in Autism Spectrum Disorder, motor disruption could have ripple effects on communication. <b>Aim:</b> The aim of the current study was to investigate the relationship between language development and gait kinematics in children with Autism Spectrum Disorder and to investigate gait kinematics in children with ASD throughout the gait cycle. <b>Subjects:</b> Thirty Children with Autism Spectrum Disorder and typically developed ones were included in the study, their age ranged from three to six years. <b>Methods:</b> A cross-sectional study was carried out where the selected autism children were assessed for gait kinematics for angles of hip, knee and ankle joints for both lower limbs using kinovea as two dimensions motion analysis software and language abilities using Arabic Preschool Language Scale. <b>Results:</b> Our results, there was significance difference in some gait phases and no significant difference in other phases between total language scaled scores and joint angles in both groups. <b>Conclusion:</b> It could be concluded that language development is related to quality of gait to some extent in children with Autism Spectrum disorder.</p>		
<b>Key words</b>	1.	<b>Autism spectrum disorder.</b>
	2.	<b>Arabic Preschool Language Scale.</b>
	3.	<b>Gait Kinematics.</b>
	4.	<b>Language.</b>
	5.	<b>Kinovea.</b>
	6.	<b>Children with Autism Spectrum Disorder.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>120 p.</b>
<b>Arabic Title Page</b>	:	<b>العلاقة بين اللغة وكينماتيكا الحركة في الأطفال الذين يعانون من التوحد</b>
<b>Library register number</b>	:	<b>7005-7006.</b>

**ELECTRONIC GUIDE TO THESE APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Nourhan Mohamed Abd El Aleem.</b>
<b>Title</b>	:	<b>Effect Of Modified Spiral Strapping In Hip Rotational Abnormalities In Hemiparetic Cerebral Palsy Children.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Emam Hassan Elnegmy</b>
	2.	<b>Doaa Ahmed Mahmoud Sanad,</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Purpose:</b> This study was done to investigate the effect of using modified spiral strapping in correction of hip rotation abnormalities in children with hemiparetic cerebral palsy to prevent deformity and improve hip rotation range of motion. <b>Participant and methods:</b> Thirty children with spastic hemiparesis enrolled in his study. Their age ranged between 3 and 6 years. They were randomly assigned into two groups of equal number 15 patients each. The control group (A) received the traditional physical program for these cases and the study group (B) received the same therapy program in addition to the spiral strapping technique on the affected lower limb. All children received the study protocol for an hour/session, 3 days/week for 3 successive months from april 2019 to june 2019, their hip range of motion was assessed before and after study protocol by digital goniometer. <b>Results:</b> Comparison of post treatment results between the two groups revealed a significant difference between post treatment mean values of external hip rotation angle in favor of study group. <b>Conclusion:</b> From the obtained results it can be concluded that modified spiral strapping has a beneficial effect on correction of abnormal hip rotation in hemiparetic children.</p>		
<b>Key words</b>	1.	<b>Hemiparesis.</b>
	2.	<b>Abnormal hip rotation.</b>
	3.	<b>Range of motion.</b>
	4.	<b>Modified Spiral Strapping.</b>
	5.	<b>Hip Rotational Abnormalities.</b>
	6.	<b>Cerebral Palsy.</b>
	7.	<b>Children with Cerebral Palsy.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>81 p.</b>
<b>Arabic Title Page</b>	:	<b>تأثير الربط الحلزوني المعدل على التشوهات الدورانية بمفصل الفخذ لدى الاطفال المصابين بالشلل النصفي التقلصي.</b>
<b>Library register number</b>	:	<b>7223-7224.</b>



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THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Nourhan Mohamed Baiomy.</b>
<b>Title</b>	:	<b>Balance Impairment In Children With Chronic Kidney Diseases.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Nanees Essam Mohamed.</b>
	2.	<b>Amira Mahmoud AbdElmonem.</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Chronic kidney disease is associated with comorbid conditions that result in physical impairments. <b>Objectives:</b> Investigate balance impairments in children with chronic kidney disease (on home dialysis and non-hemodialysis) compared with typically developed age matched control group. <b>Design:</b> An observational design (cross-sectional study). <b>Settings:</b> The assessment procedures were conducted at the Nephrology Unit, Zagazig University Hospitals. <b>Participants:</b> Seventy-five children, age ranged from 8 to 15 years represented three groups of equal numbers; control group (typically developed), non-dialysis (stage 3 and 4) and hemodialysis group. <b>Outcome measures:</b> The Human assessment computer balance system was used to assess the limits of stability, center of pressure and sensory organization and balance. <b>Results:</b> Compared with typically developed children, those with CKD showed statistically significant low stability scores, greater path length and impaired sensory organization and balance (<math>P&lt;0.05</math>). Furthermore, children on-hemodialysis showed significant impairments compared with non-dialysis group. <b>Conclusion:</b> Children with CKD exhibit poor postural stability regardless the cause and duration of the disease. Early ascertainment of these impairments is recommended to minimize the potentials for comorbidity in adulthood.</p>		
<b>Key words</b>	1.	<b>Balance.</b>
	2.	<b>Chronic kidney disease</b>
	3.	<b>Human assessment computer balance system</b>
	4.	<b>Postural stability</b>
	5.	<b>Children With Chronic Kidney Diseases.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>93 p.</b>
<b>Arabic Title Page</b>	:	<b>اضطراب الإتزان عند الأطفال الذين يعانون من مرض الكلى المزمن.</b>
<b>Library register number</b>	:	<b>7033-7034.</b>

**ELECTRONIC GUIDE TO THESE APPROVED BY PHYSICAL  
THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT  
DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	<b>Salma Awad Abd El-Hafiz.</b>
<b>Title</b>	:	<b>Combined Effect Of Static And Dynamic Splint On Hand Function In Children With Spastic Cerebral Palsy.</b>
<b>Dept.</b>	:	<b>Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.</b>
<b>Supervisors</b>	1.	<b>Manal Salah El-Din Abd EL-Wahab</b>
	2.	<b>Sahar Mohamed Nour El-Din</b>
	3.	<b>Zeinab Ahmed Hussien</b>
<b>Degree</b>	:	<b>Master.</b>
<b>Year</b>	:	<b>2020.</b>
<b>Abstract</b>	:	
<p><b>Background:</b> Cerebral palsy is a common condition that has devastating effects on a child's ability to use hands. Either static or dynamic hand splints intervention often used to address deficits in upper limb skills. <b>Purpose:</b> the purpose of the current study was to investigate the combined effect of dynamic and static splints on hand function and grip strength, in children with hemiplegic Cerebral palsy. <b>Subjects and Procedures:</b> Twenty-four children (8 boys and 16 girls) aged 30 to 45 months; they were free from contractures at the wrist and elbow joints, participated in this study. They were randomly assigned equally into control group ( that was treated by static splint) and study group (that received a combined dynamic and static splinting) <b>Evaluation of hand grip strength using hand held dynamometer and hand function performance detected by Peabody was done at baseline and after 12-weeks of treatment application, Results:</b> Post treatment mean values of grasping and object manipulation domains of Peabody scales scores showed a statistically significant difference( <math>p&gt;0.05</math>) within and between control and study groups while mean value of grip strength showed insignificant difference (<math>p&lt;0.05</math>) between both groups. <b>Conclusion:</b> Combined effects of dynamic and static splints are most beneficial on improving hand function in children with hemiplegic CP.</p>		
<b>Key words</b>	1.	<b>Cerebral Palsy.</b>
	2.	<b>grip strength.</b>
	3.	<b>hand performance</b>
	4.	<b>Dynamic Splint.</b>
	5.	<b>Static splinting.</b>
	6.	<b>Children With Cerebral Palsy.</b>
<b>Classification number</b>	:	<b>000.000.</b>
<b>Pagination</b>	:	<b>123 p.</b>
<b>Arabic Title Page</b>	:	<b>التأثير المركب للجبيرة الثابتة والوظيفية على وظائف اليد عند أطفال الشلل الدماغي التقلصي.</b>
<b>Library register number</b>	:	<b>7101-7102.</b>

**ELECTRONIC GUIDE TO THESE APPROVED BY PHYSICAL THERAPY DEPARTMENT FOR GROWTH AND DEVELOPMENT DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	Sara Mohamed Elabasiry.
<b>Title</b>	:	Mirror therapy versus constraint induced movement therapy on upper limb functions in hemiplegic children.
<b>Dept.</b>	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
<b>Supervisors</b>	1.	Manal Salah El Din
	2.	Sahar Mohamed Nour El Din
<b>Degree</b>	:	Master.
<b>Year</b>	:	2020.
<b>Abstract</b>	:	
<p><b>Purpose:</b> Is to compare between mirror therapy versus constraint induced movement therapy in order to detect which is more effective modality in controlling upper limb functions in hemiplegic cerebral palsied children. <b>Subjects and Procedures:</b> This study was carried out on thirty children (sixteen girls and fourteen boys) with hemiplegic cerebral palsy at outpatient clinic of Pediatric Physical Therapy, Cairo University. They were divided into two studied groups of equal numbers; Group A: fifteen children, who were treated by mirror therapy three times per week for twelve weeks, each session lasted for thirty minutes, Group B: Fifteen children who received intervention with constraint induced movement therapy (CIMT) six hours per day for twenty one days then a period of one week rest was given and the application of (CIMT) was repeated twice again. <b>Assessment of range of motion (ROM) of forearm supination and pronation, elbow flexion, and wrist extension for both groups was done by goniometer, also hand grip strength was measured by a baseline hand held dynamometer, and hand functions assessment was measured for both groups by Quest Scale. All these measured variables were repeated after the first, second and third month of treatment application. Results:</b> A statistically significant improvement was recorded in all measured variables after treatment application in each group, when comparing their pre and post treatment mean values, while between both groups there was statistically insignificant difference before treatment, however a statistically significant difference was recorded post treatment in all measured variable in favor of mirror group when comparing them with CIMT group except (wrist extension ,after the first month treatment of elbow flexion ROM and forearm supination). <b>Conclusion:</b> Mirror therapy is more effective than CIMT in controlling upper limb functions of the hemiplegic children.</p>		
<b>Key words</b>	1.	Mirror therapy
	2.	Constraining induced movement therapy
	3.	Hemiplegic child
	4.	upper limb functions.
	5.	Children With hemiplegic.
<b>Classification number</b>	:	000.000.
<b>Pagination</b>	:	132 p.
<b>Arabic Title Page</b>	:	العلاج بالمرآة مقابل العلاج الحركى الناتج عن القيد للتحكم فى وظائف الذراع للاطفال المصابين بالفالج الشقى.
<b>Library register number</b>	:	7203-7204.

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DISORDER IN CHILDREN AND ITS SURGERY**

<b>Author</b>	:	Sara Mohamed Mohsen kortam.
<b>Title</b>	:	Validity and reliability of smart phone application in measurement of range of motion among school children.
<b>Dept.</b>	:	Physical Therapy Department for Growth and Developmental Disorder in Children and its Surgery.
<b>Supervisors</b>	1.	Zeinab Ahmed Hussein
	2.	Shimaa Mohamed refaat
<b>Degree</b>	:	Master.
<b>Year</b>	:	2020.
<b>Abstract</b>	:	
<p><b>Back ground:</b> Smartphone applications have emerged recently to present numerous opportunities for improving health care. However, the validity and reliability of these technology applications still limited in pediatrics management. <b>Objectives:</b> To evaluate validity and intra-rater reliability of smart phone application in measuring range of motion among normal school children. <b>Methods:</b> One hundred and fifty typically developing school student aged from (12-16) year free from significant musculoskeletal pathology or pain. A within-session test-retest design was used to compare range of motion measurements taken using the Dr Goniometer application for iPhone to those taken by a digital goniometer. Torque-controlled active elbow and knee flexion and extension were collected and statistical analysis of validity and test-retest reliability was performed. <b>Results:</b> The results showed significant positive correlation between digital goniometer and Dr Goniometer in knee and elbow flexion (<math>r=0.88</math> and <math>p=0.0001</math>) (<math>r=0.95</math> and <math>p=0.0001</math>) respectively and showed a non-significant negative correlation in knee and elbow extension (<math>r=-0.02</math> and <math>p=0.74</math>) (<math>r=-0.06</math> and <math>p=0.42</math>). The correlation results of the reliability showed significant positive correlation of Dr Goniometer between 1st and 2nd measurement in knee flexion and extension (<math>r=0.82</math> and <math>p=0.0001</math>) (<math>r=0.8</math> and <math>p=0.0001</math>) respectively and showed a significant positive correlation in elbow flexion and extension (<math>r=0.91</math> and <math>p=0.0001</math>) (<math>r=0.81</math> and <math>p=0.0001</math>). <b>Conclusion:</b> It was concluded that Dr Goniometer application had an excellent reliability in elbow and knee measurements and was valid in elbow and knee flexion. Even with loss of validity in elbow and knee extension Dr Goniometer may be implemented in a clinical setting similar to that where the study was conducted, enabling rehabilitation physicians and therapists to use a smartphone to take precise measurements of range of motion in daily clinical practice.</p>		
<b>Key words</b>	1.	Digital Goniometer
	2.	Dr Goniometer
	3.	Range of motion
	4.	Reliability smartphone application.
	5.	Validity.
	6.	School children.
<b>Classification number</b>	:	000.000.
<b>Pagination</b>	:	117 p.
<b>Arabic Title Page</b>	:	صحة قياس تطبيق الهاتف الذكي على نطاق الحركة بين اطفال المدارس.
<b>Library register number</b>	:	<b>7193-7194.</b>