

COLOUR AND ITS EFFECTS ON VOLLEYBALL SERVICE

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Keywords: Colour, volleyball, serve, efficiency.

Abstract: In this paper we present how the colours and partial occlusion may influence the effectiveness of field service players to perform serve with an upper hand in volleyball. Experiment may notice that the athletes tested had better results in the blue unlike red.

Introduction:

The colour everywhere accompanies our existence. It represents what is beautiful in the world of flowers and bow to the splendid rainbow. Painting used to play beauty of the world, colour has an allegorical sense in the Middle Ages, then becomes decorative and sensory Renaissance to the Impressionists symbolic reach. We live in a universe of colour and that colour is expressive force and power to reveal emotional states, feelings and ideas.

After [Cernea P., P. Muresan, Zhu R., R. Mehta] it acknowledges the existence of four or pure primary colours in the spectrum, namely red, yellow, green and blue. Red influencing most and has the strongest effect on our physique. This increase TA, FC and FR and encourages us very much. It is the colour of aggressiveness, anxiety and agitation causes. Studies by [Elliot A., M. Maier, Meinhard J.] come up with results that reinforce that red in colour, has hypothesized that affects performance in tasks that is associated with the risk of failure in achievement contexts and evokes avoidance motivation.

On the other hand colour blue is perceived as a very cold colour, restful and soothing, urging calm, could lead to serious, peace, spaciousness and nostalgia and excess to depression. The blue colour is called confidence colour and most is associated with stability, calmness and tranquility. The physique and psyche has a soothing effect and slows metabolism. If we draw inspiration from nature, sky and water bring positive effects on our emotional state.

Colour perception depends on physiological and educational profile of each subject, stresses mental, emotional concerns can arise

when a colour image. Thus, some authors [Demeter A. et al] considers that causes excitation or inhibition of cells surrounding their reverse process. The concentration will induce excitation in an area around the original outbreak of inhibition (simultaneous induction negative), while the concentration induces inhibition zone around the excitation (Positive simultaneous induction).

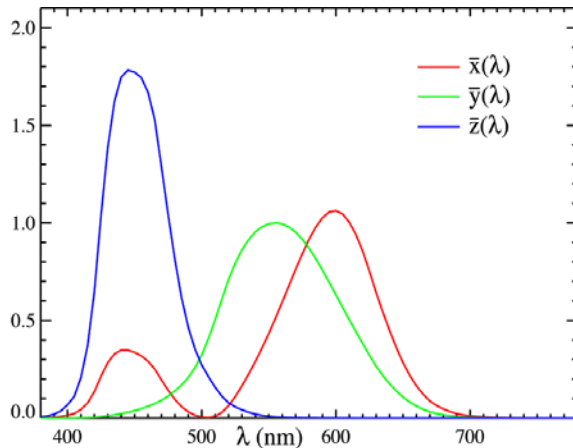


Fig. 1 Graphical representation of the sensitivity curves of eye receptors

Knowing the range of wavelengths and frequency range of colours (Fig. 2) may lead to their use in specific training for a match or a particular opponent, or for habituation subject alternating arousal inhibition in order to identify a balance emotional. As a result of this we believe that technical errors are not based their decision only, time or movement [Păcuraru A., V. Belinovic, Christina RW, Corcos D.M.] but also mental excitation or inhibition generated colour.

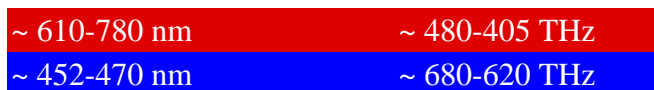


Fig. 2 The range of wavelengths and frequency range of colours

Hypothesis:

Based on this information we considered that caused an experiment will help us answer the questions:

- colours can influence the effectiveness of an action driving psychically bringing different effects during its execution?

- By covering practicing volleyball net and reducing peripheral vision will lead to changes in efficiency indices in respect of the implementation of service up front?

Material method:

Research was carried out in the gym of School No. Gymnasiums. 11 Suceava - Burdujeni on a group of 10 students of class VII them, aged 13 to 14 years. These girls are part of School no. 11 Suceava volleyball team, taking part in school competitions in the ONSS Volleyball competition.

In order to verify the hypothesis above I ordered a battery of tests to the 10 pupils with 10 executions each as follows:

Service ½ up the field

- behind the subject line of the field of volleyball - in the service area and the service runs up front in the corresponding half of the field opposite.

Service after a bank located up to 2.5 m bottom line.

- - The opposition's half of the field sits on a gymnastic bench with a length of 4 m at a distance of 2.5 meters from the bottom line;

The tests described above were repeated twice by coating the net with a material with a red and a blue colour material.



Fig. 3 Aspects of the tests with and without colour barriers

Results:

After the test I noticed that when the net was covered, regardless of their material successes were few. Also samples of precision that service sending the ball into a confined space is remarkable results up 50% weaker in coated fillets situation, this urging us to believe that partial obstruction of the visual field produce significant effects, as can be seen in Table 1.

Table no. 1 Testing subjects - specific evidence

Statistical Indicator	Up serve on ½ of field	Up serve on ½ of field - red	Up serve on ½ of field - blue	Up serve after bench	Up serve after bench – red	Up serve after bench - blue
Average	7,4	6,5	7	6,4	3,3	3,7
Standard deviation	0,91	0,80	1,26	0,8	0,78	0,9
Coefficient of variation	0,12	0,12	0,18	0,12	0,23	0,24

Conclusions:

After running the entire scientific experiment we came to some conclusions among which:

1. The results are clearly in favour of the conclusion that the hypothesis is confirmed, the colour having a role in conditioning performance of the service with an upper hand, may be classified as a determinant of quality driving skills.

2. Moreover, one can observe the selective influence on the human psyche chromatic spectrum translated into effective enforcement actions driving with a positive influence in this case the colour blue.

3. It may be noted and a sharp drop in successful actions in regard to the limitation of the service area, the subjects could not see the target because of barriers of colour, which leads us to conclude that colours influence extends not only on but also on the emotional states processes such as nerve imagination, anticipation, orientation.

4. We believe that our experiment may open new lines of research and evidence that we have proposed can become effective testing methods, consolidation and improvement of service up front.

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CULOAREA ȘI EFECTELE EI ASUPRA SERVICIULUI DIN VOLEI.

Cuvinte cheie: culoare, volei, serviciu, eficiență.

Rezumat: În aceasta lucrare prezentăm modul în care culorile și obturarea parțială a câmpului vizual pot influența eficiența jucătorilor la efectuarea serviciului cu o mână de sus din volei. În urma experimentului se poate remarca faptul că sportivele testate au avut rezultate mai bune pe culoarea albastră spre deosebire de culoarea roșie.

MEANS OF PHYSICAL THERAPY APPLIED IN RECOVERY AFTER THE SURGERY OF ANTERIOR CROSSING LIGAMENT

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Keywords: physical therapy, means, recovery, knee.

Abstract:

What is about to be presented underlines the clarity of the most important issues of physical therapy intervention in sports traumatology and not only, aspects sustained in paper's context.

With the help of physiotherapist G.M. and through a unique practical experience, I had the opportunity to collect information and to process them in this context. The paper is based on data obtained during anamnesis, but also from studying the mechanisms production, relevant aspects in a clinical examination functional and complex, and data from specialized books.

In this paper I tried to reach both the starting point (choice of treatment) but also the selected means in order to reach a better efficiency of the program of physical therapist treatment.

Introduction:

The knee joint is the biggest joint of human body that represents the mobile segment of the musculoskeletal system that bounds the thigh to the gamba.

The knee being a quite big joint, in the moment when an injury happens at the joint, the instability occurs, functional insufficiency and post trauma sequelae. The patient is affected in terms of aesthetic, social and professional.

Motto: „The means of medical gymnastics are applied regularly in the complex trauma, being preferably associated with other related means, through the way of action and effects.” (Adrian N. Ionescu in Clement Baciu, 1981)

From the point of view of Doctor C. Baciu, physical therapy finds wide applications in all spheres of rehabilitation, being necessary to medical recovery and to psychiatric rehabilitation, not lacking to professional recovery and social rehabilitation.

General objectives pursued in the recovery program:

- Recovery muscle strength
- Increase muscle strength
- Improving coordination function, body control and balance
- Posture correction
- Increase joint mobility
- Increase range of movement (Ionică Cărăbuș, 2008)

Research hypotheses

To what extent does physical therapy help through its means at pain relief, at inflammation and can prevent countervailing deformations?

After the surgery of rupture of anterior crossing ligament, after a physical therapy program judiciously composed, taking into account the sports' 'particularities, the severity of trauma, does it ensure a full recovery of the athlete?

The aim of the paper was well defined according to verification of individualized recovery program for athlete.

For optimal success recovery in most sports trauma, the existence of a strong motivation is the key to success.

Task - Application of specific means of physical therapy in order to recover the athlete of sport performance after the surgery of anterior crossing ligament

Material and method:

The place of the recovery program and research was in The Complex of Swimming and Physical Therapy of the Faculty of Physical Education and Sports Suceava, physical therapy office and swimming pool, for a period of 4 months, October 2015 – January 2016.

The recovery program was followed over a longer period of time because the subject was a athlete of performance and he was at his second surgery. The subject, after his second surgery, interrupts the sports activity.

The recovery program started since day 10, the subject being in the second stage of recovery. I made the recovery program for a period of 12 weeks, with 2 sessions every week. The patient worked at home also, this thing promoting a faster recovery. Due to the performed sport, the muscle atrophy was nonexistent, dropping just strength and muscle tone.

Part of the recovery program

Initial position stand, with feet apart, the stick held horizontally, with arms at shoulder width, inhale while carrying the arms in body extension, exhale at the same time with flexing the trunk forward and lowering the arms to the ground. 2 series of 10 repeats- breaks between the series: 30 seconds.

Initial position dorsal decubitus – raising and lowering the affected limb - 2 series of 10 repeats- breaks between the series: 30 seconds (Fig 1)

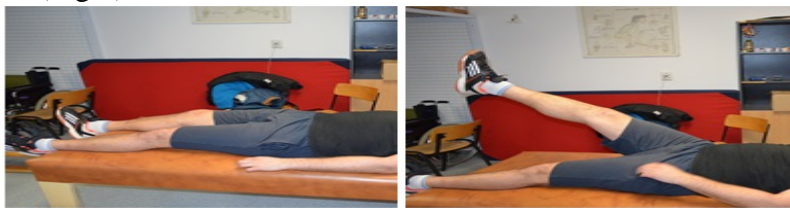


Fig 1 Raising and lowering the affected limb

Initial position dorsal decubitus, knees slightly bent with the attachment of a small weight at the level of distal extremity of gamba, feet on the ground, arms along the body, the patient performs extension from knee's articulation, 4-5 seconds maintaining, return. 2 series of 10 repeats- breaks between the series: 30 seconds.

Initial position dorsal decubitus, arms along the body, with the attachment of a weight at gamba's level, it is performed leg's lifting, 4 seconds maintaining, then it is performed the flexion and the knee is brought to chest, return. 2 series of 10 repeats- breaks between the series: 30 seconds

Initial position sitting on the physical therapy table, feet apart from the support surface, with the attachment of a weight at ankle level, it is performed the knee's flexion and extension with 5 seconds maintaining, return. 2 series of 10 repeats- breaks between the series: 30 seconds

From initial position standing, facing the sports trellis, hands grab a strip of the trellis, the subject executes tiptoe lifting, with 5 seconds maintaining. 2 series of 10 repeats- breaks between the series: 30 seconds

Initial position sitting on the physical therapy table, feet apart from the support surface, the physical therapist holds the ankle one side and on the other side pushes the third part of distal thigh, patient must

learn how to overcome the applied resistance by performing knee's flexion and extension. 2 series of 10 repeats- breaks between the series: 30 seconds

Initial position of a patient is in dorsal decubitus, around the plantar vault of the affected foot, it is fixed an elastic band, following the subject to execute member's extension. 3 series of 10 repeats- breaks between the series: 30 seconds.

Initial position dorsal decubitus, bend knees, vertical gambas, it is performed at the same time leading the legs sideways left, then right, with return to initial position. 3 series of 10 repeats- breaks between the series: 30 seconds

Initial position of the patient and of physical therapist is dorsal decubitus, hands along the body, heels unite, and the patient must learn how to overcome the resistance applied by the physical therapist. 3 series of 10 repeats- breaks between the series: 30 seconds

Initial position standing on one foot on the BAPS plate, subject performs movements in different directions, keeping his balance with his hands. 3 series of 10 repeats- breaks between the series: 30 seconds

Presentation and interpretation of the achieved results

Table1 - General data of the patient

Nr Crt.	Name and surname	Sex	Age	Profession	Clinical diagnosis	Entry date into evidence	Exit date from evidence
	R. T	M	22 years	High performance athlete	Neo ligament damage anterior crossover	05.10.2015	29.01.2016

Table 2 Representation of pain intensity

Evaluation	Pain intensity										
	0	1	2	3	4	5	6	7	8	9	10
Values											
Initial evaluation								x			
Intermediate evaluation					X						
Final evaluation	X										

At the articular balance the subject shows reduced movement amplitude at the right knee. The subject accuses pain at thigh level, both at rest but also in motion.

Table 3 Articular balance

Movement	Initial evaluation		Intermediate evaluation		Final evaluation	
	Active	Passive	Active	Passive	Active	Passive
Flexion	44°	56°	84°	92°	126°	135°
Extension	94°	106°	124°	132°	166°	175°

Table 4 Muscular balance

Evaluation	0	1	2	3	4	5	6	7	8
	-F2	F2	+F2	F3	F3+	F4	F4+	F5	F5+
Initial evaluation	X								
Intermediate evaluation					X				
Final evaluation								X	

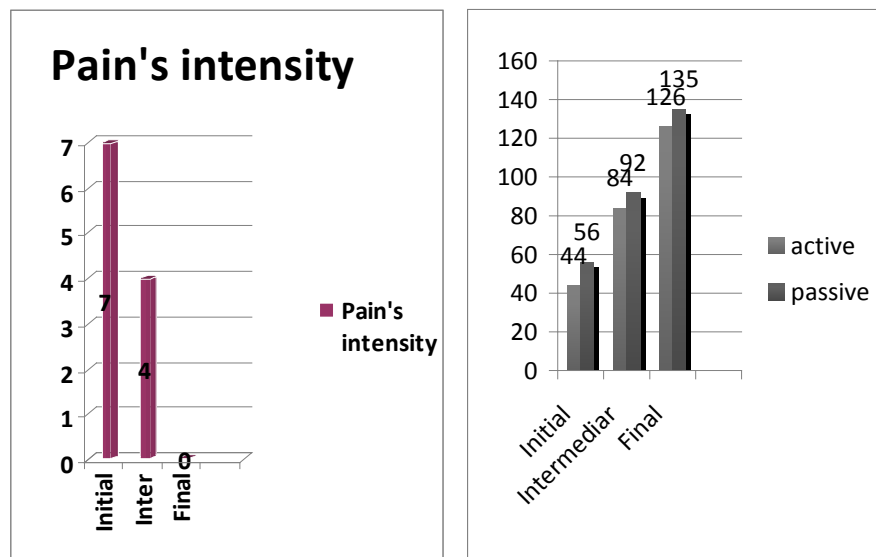
In order to present in graphic the value of muscle strength, I gave numeric values appropriate to force obtained at evaluations.

Legend:

Initial evaluation = patient's evaluation at the beginning of physical therapy treatment 5.10.2015

Intermediate evaluation = patient's evaluation on 20.11.2015

Final evaluation = patient's evaluation at the end of physical therapy treatment 29.01.2016



Graph 1 Intensity of pain Graph 2 Articular balance on flexion

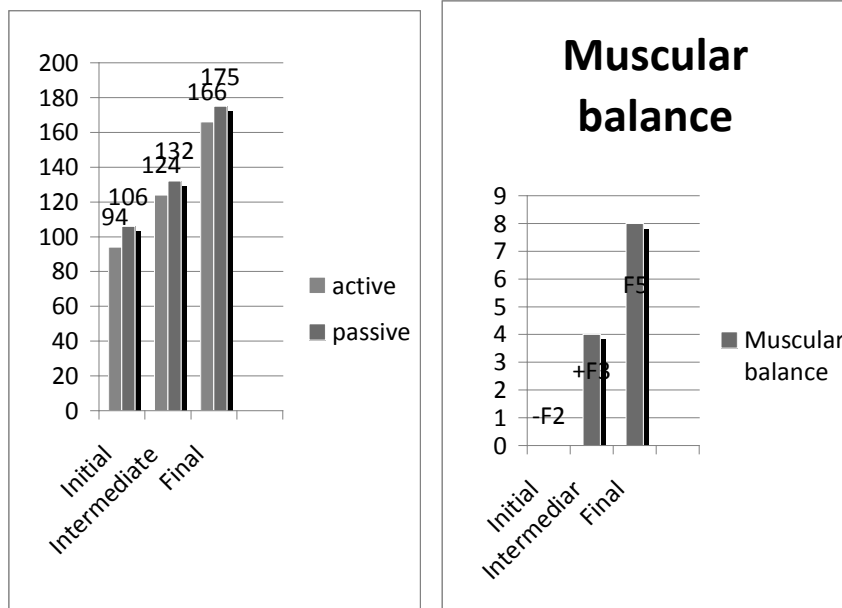
Analyzing the information from graph number 1 we can see that pain intensity from initial evaluation, representing a high value of 7, decreases till the intermediate evaluation to a value of 4, reaching to 0 at the final evaluation.

In graph number 2 the movement performed active by the patient is represented with blue, and the passive movement with red.

There can be noticed that at initial evaluation the patient could actively perform a flexion of 44°, and passive till 56°. At the next evaluation the mobility degree increases up to 84° active and passive till 92°, and at the last evaluation the patient regains a considerable increase of 126° active and 135° passive.

Following the graph number 3 we can see that at initial evaluation the patient had an extension of 94° active, and passive of 106°. The next evaluation shows a mobility increase up to 124° active and 132° passive, following that final evaluation to estimate an active increase till 166° and passive of 175°.

In graph number 4 there can be seen at initial evaluation a force – F2, corresponding to a numerical value 0, intermediate evaluation determines a force's increase up to +F3 with a numerical values of 4, and at final evaluation there is a force's increase up to F5, a numerical values of 8 that represents the efficiency of training program.



Graph 3 Articular balances on extension Graph 4 Muscular balance

CONCLUSIONS

1. As a result of applying the recovery program, it was confirmed the hypothesis ensuring a full recovery of the athlete.
2. The recovery program has a very important part in improvement the knees’ functionality and patient’s quality of life.
3. Applying the physical therapy program, over a period of 4 months, can determine the mobility improvement and knee’s functionality, pain relief, improvement of life’s quality.
4. Treatment has lead to a significant improvement of functionality due to a greater stability in knee’s articulation.
5. As a result of applying the recovery program the patient started the training at Sportive Club University.

PROPOSALS

- Knee protection by wearing orthotics at training.
- At the beginning of the training it will be taken into consideration graduation of exercises not to require at maximum capacity the affected limb.
- Avoid running on off road.
- Continuing the recovery program, both at home but also at the gym.

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MIJLOACE ALE KINETOTERAPIEI APLICATE ÎN RECUPERAREA DUPĂ INTERVENȚIA CHIRURGICALĂ A LIGAMENTULUI ÎNCRUCIȘAT ANTERIOR

Cuvinte cheie: kinetoterapie, mijloace, recuperare, genunchi.

Rezumat: Ceea ce urmează a fi prezentat subliniază claritatea celor mai importante aspecte ale intervenției kinetoterapiei în cadrul traumatologiei sportive și nu numai, aspecte susținute în contextul lucrării. Cu ajutorul kinetoterapeutului G.M. și printr-o experiență practică unică am avut posibilitatea de a culege informații și de a le prelucra în contextul dat. Lucrarea are la bază date obținute în cadrul anamnezei, dar și din studierea mecanismelor de producere, cât și aspecte relevate în cadrul unui examen clinic și funcțional complex, dar și date din cărți de specialitate. Prin această lucrare am încercat să ating atât punctul de plecare (alegerea tipului de tratament) cât și mijloacele selectate pentru a se atinge o eficiență cât mai bună a programului de tratament kinetoterapeutic.