

4. Благітка Я. Деякі завваги у тілесному вихованню жінок // *Сокільські вісті*. — Львів, 1931. — С.1.
5. Мінімусенко. Жіноцтво в Лузі // *Луговик*. — Львів, 1927. — С.11-12.
6. Поінформований. Наука руханки в Станіславській українській жіночій семінарії // *Станіславські вісті*. — Станіслав, 1912. — С.3.
7. П. Спорт без принуки // *Світ молоді*. — Львів, 1934. — С.15.
8. Е. Плавання — жіночий спорт // *Світ молоді*. — Львів, 1934. — Ч. 7-8. — С.15.

## THE PROBLEMS OF PHYSICAL OCCUPATION OF WOMEN FROM EAST HALYCHYNA (THE END OF XIX — THE BEGINNING OF XX CENTURY) YAROSLAV BODNAR

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Many problems of young people's physical education are being discussed now. Namely, the special features of physical education of girls and women, their participation in the sport festivals. At the same time in spite of positive results many defects of this activity are also discussed.

## CHANGES OF SOME MORPHOLOGICAL PARAMETERS OF IMPAIRED SWIMMERS DURING THEY STAY IN THE TRAINING CAMP

### ЗМІНИ ДЕЯКИХ МОРФОЛОГІЧНИХ ПАРАМЕТРІВ НЕПОВНОСПРАВНИХ ПЛАВЦІВ ПРОТЯГОМ ЇХ ПЕРЕБУВАННЯ У ТРЕНУВАЛЬНИХ ТАБОРАХ

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#### *I. Introduction*

In Poland swimming of the disabled have reached recently very high level The sports results achieved by Polish swimmers in World Championships or Paralympic Games have confirmed this opinion Both popularity of this sports discipline and its quickly growing up its level cause the necessity of the deep analysis of all the aspects which could to contribute an improvement of the sports results (2, 3). One of the important factors is a knowledge of mutual proportions of the tissue components of the body, since the bone tissue, muscle tissue and fat have the reciprocal character In professional swimming a proper musculature is the important feature, while an excessive development of the fat component may present itself the useless ballast. In connection with above the quantitative analysis of the components of the tissue of competitor's body could be very helpful, particularly taking the fat tissue into consideration with evaluation of its possible correction. The measurements of thickness of the skinfolds one can perform in different places of the body depending on assumed aims or needs.

It is assumed that about 50% of the human fat tissue lays out under skin as so called subcutaneous fat (contrary to so called internal fat which covers the internal organs) Due to the constant thickness of the skin, the differences in skinfolds thickness if they are observed in the same places on the body can be treated as differences in one's fatness (5).

#### *II. Objectives of the paper*

The paper objective is a comparison of changes of body mass and thickness of skinfolds in disabled professional swimmers which were observed during two weeks period at the training camp where the swimmers were prepared before competitions.

### III. Material and Method

The investigated sample consists of 8 swimmers from sports club "Start" Wroclaw who were trained before Paralympic Games in Sydney 2000 in a special training camp. The camp lasted two weeks from 25.09.2000 to 6 10 2000 and was organized by sports club WKS Silesia in its seat in Wroclaw Training were carried out in 50 meters swimming pool twice a day, from 9-30 to 11.00am and from 16.00 to 17.30pm.

The whole investigated sample involved (Table 1):

- 2 swimmers from I sports group, B2 class;
- 2 swimmers from III sports group; A1 and A2 class;
- 3 swimmers from IV sports group, 1B and 3 class;
- 1 swimmer from V sports group, 5 class. Besides of measuring of the body mass the thickness of three skinfolds:
  - along the arm, directly over triceps, in the half of an arm;
  - below of scapula, down aslant in lateral direction from lower scapular angle;
  - on the hip crest (crosswise on abdomen, a little beneath a navel and about 5 cm aside).

**Tab. 1 Swimmers participating in the sports camp**

No	Age (years)	Years of sports training	Sports group	Sports class	Starting group	Kind of disfunction
1	41	20	IV	3	S7, SB6, SM7	Paraplegia
2	42	13	IV	1B	S2	Condition after damage of spine at the C6
3	28	12	III	A1	S7, SB6, SM7	Amputation of both legs at the height of thigh
4	44	29	IV	3	S5	Paraplegia
5	19	3	I	B2	S12	Visually unpaired
6	21	4	I	B2	S12	Visually unpaired
7	26	8	V	5	S10, SB9, SM10	Club left foot
8	19	7	III	A2	S9, SB8, SM9	Amputation of one leg at the height of thigh

The measurements were taken twice: on the first day and on the last day of the training camp. The observed differences were then analyzed in relation to training volume, applied diet and biological recovery.

### IV. Volume and character of physical load used during the training

The training camp was organized during the so called subperiod of special preparation, and swimmers intensive prepared themselves to Paralympic Games. The sources and methods of general physical training were limited. They were used only in order to maintain one's level of basic motoric traits and abilities as well as form of active rest which accelerates the process of biological recovery. Special exercises were used in order to build one's special endurance, general speed and optimal form of swimming technique (1, 4). Besides the ability to maintain the constant speed along a distance, the swimmers improved themselves in such technical variants of start like: maximum fast reaction to the starting signal, starting technique with special emphasis put on maximum force

or maximum speed of motion (kkg and kkd). The participation in the whole training volume of such exercises like fast swimming with maximum intensity over a short distance (5 to 15 m) or short time spurt acceleration (on the distance 3-5 m) during a long distance swimming also grew up. The mentioned above elements of starting technique were exercised irregularly during the training camp. They were supplemented by other preparatory ones as jumps from different starting positions, jumps to the specially marked point of diving, swimming short distances (maximum speed) with use only upper or lower extremities and by different variants of work and perspiration, etc. At the beginning, the exercises referring to both their execution and form affected only some selective components of special endurance of an individual. Nevertheless with time the character of training became more integral. The aim of it was to carry the training in such a way so that the whole complex of functional and psychic transformations, motor habits or abilities, knowledge and experience from the previous subperiod was focused in the starting exercise.

The psychic preparation of a swimmer played very important role, especially with reference to older sportsmen. In the context of it the psychoanalytical skills of a coach who must convince a swimmer of necessity to exact performing the planned training load as well as the autosuggestion of an individual was of an exceptional importance (6).

An example of the training unit as used during the training camp in preparation of sportswoman with amputation of both lower extremities at the thigh level was presented.

#### *V. The biological recovery*

All the procedures of biological recovery were recommended by a physician on a basis of clinical symptoms reported by swimmers. Kind of the recovery procedure and its parameters were specified for each individual separately. The ailment most frequently claimed by swimmers was pain caused by the fatigue of the muscle groups mainly used in the swimming. Hydrotherapy, balneotherapy, electrotherapy and classical massage were used as the recovery

procedures. The swimmers often used the relaxation and recovery procedures in water. Massage by rotating water and underwater massage gave the best results in relaxation and recovery of tired muscles. Additionally, twice a week all the swimmers took the salt bath and used the sauna. Diadynamic currents, lasertherapy and ultrasounds were used as the electrotherapy procedures.

The classic massage was most frequently used as a form of biological recovery during the whole period of the training camp. The different techniques of massage were used dependent on clinical symptoms, kind and surface of tissue under massage and expected effect. Among them such like stroking, rubbing, crumpling and vibration were the most frequent.

Strengthening of the volitional traits of the character of an individual and molding his/her personality features was the important element of the rehabilitation in training. It was done by suitable training, rest and additional elements (e.g. conditions of warming up).

#### *VI. Feeding of disabled swimmers during the training camp*

Kinds and forms of nutrition are the essential factor which influences body mass and body composition of a sportsman.

Well balanced food have to fulfill the demands of an organism in relation to all nutritious components like proteins, fats, carbohydrates, vitamins, mineral compounds and water. An intensive training and necessity to maintain the high level of sports ability and endurance led to the negative energetic balance. It created an increasing demand for certain nutritious components. This demand cannot be fulfilled by the normal nutrition which must be enriched by some nutrient-supplements. Such supplements deliver the easily absorbed nutritious components, so called energetic compounds, building materials and regenerating compounds, to an organism.

#### *VII. Results*

Very large training load like such as were used during stay in the training camp must had an influence on the energetic balance of an organism. To do the training exercises one have to adapt the speed of regeneration of energetic reserve of an organism to the speed of using up of it. Intensive physical effort during the training led mainly to the loss of phosphocreatine in muscles. After

consumption of the one's reserve of it, an organism set in motion another metabolic processes which caused loss of the body mass and decreasing of the fat tissue

The average loss of the body mass was 1,75 kg (Table 2) Such loss should be treated as significant in relation to the age of swimmers under consideration (about 30 years on average) and their long competition seniority (12 years on average).

**Tab.2 Body mass of swimmers at the beginning and at the end of camp**

No,	1st measurement	2nd measurement	difference
1	48,0	47,0	-1
2	66,0	65,0	-1
3	46,0	45,0	-1
4	56,0	54,0	-2
5	64,0	62,0	-2
6	82,0	79,0	-3
7	72,0	70,0	-2
8	60,0	58,0	-2
Mean	61,75	60	-1,75

With regard to skinfold thickness on the arm (Table 3) the fall of its value from 0,2 mm to 0,6 mm (0,34 mm on average) Similar results were noted regarding skinfolds under the down scapular angle The difference of thickness of the last between its value at the beginning and at the end of the camp ranged from 0,2 mm to 0,6 mm (see Table 4)

**Tab 3 Subcutaneous fat (mm) on the arm**

No	1st measurement	2nd measurement	difference
1	14,5	14,2	-0,3
2	7,0	6,8	-0,2
3	16,4	16,2	-0,2
4	4,8	4,5	-0,3
5	14,5	14,0	-0,5
6	9,9	9,6	-0,3
7	7,0	6,4	-0,6
8	10,0	9,7	-0,3
Mean	10,5125	10,175	-0,3375

**Tab 4 Subcutaneous fat (mm) below the scapula**

No	1st measurement	2nd measurement	difference
1	13,6	13,0	-0,6
2	7,8	7,6	-0,2
3	13,0	12,6	-0,4
4	9,2	9,0	-0,2
5	11,8	11,5	-0,3
6	12,4	12,2	-0,2
7	9,0	8,7	-0,3
8	8,8	8,5	-0,3
Mean	10,7	10,3875	-0,3125

However, the decrease of skinfold thickness on the hip crest presented somewhat different picture they varied between 0,2 mm and 1,2 mm (0,65 mm on average) as it can be seen from Table 5

**Tab. 5 Subcutaneous fat (mm) on the hip crest**

No.	1st measurement	-ind measurement	difference
1	9,6	8,8	-0,8
2	6,4	5,8	-0,6
3	13,6	12,8	-0,8
4	8,4	7,2	-1,2
5	19,5	18,8	-0,7
6	10,5	9,8	-0,7
7	5,4	5,2	-0,2
8	9,0	8,8	-0,2
Mean	10,3	9,65	-0,65

#### VIII. Conclusions

- The body mass and thickness of the fat tissue in disabled swimmers significantly decreased during the two weeks lasting training camp
- The reasons which caused the decrease of investigated parameters were intensive physical effort, procedures of biological recovery and proper diet
- The highest decrease of thickness of the fat tissue was observed on the hip crest, it was twice as much as on the arm and under the down scapular angle which was about 0,3 mm on average It was due to the fact that first of all the muscles of upper extremities and the shoulder took the main part in the made physical effort

- The physical load used in the training was adjusted to the individual sports ability as well as a kind and an extent of dysfunction

#### IX. References

- 1 Bartkowiak E 1995 Sportowa technika plywania Wyd AWF, Warszawa
- 2 Bolach E , Chilicki J 1994 Wytrzymałosc ogolna i specjalna plywakow niepemosprawnych i pemosprawnych, Fizjoterapia, 4
- 3 Bolach E 1999 Jednostka treningowa w plywaniu paraplegikow na turnusach aktywnej rehabilitacji, W Sport w rehabilitacji osob niepemosprawnych Red Jan Slezynski, wyd PSON, Krakow
- 4 Czabanski B 1980 Elementy teorii plywania, Wyd AWF, Wroclaw
- 5 Skibinska A 1993 Zarys antropologii Wyd AWF Warszawa
- 5 Platonow W 1997 Trening wyczynowy w pływaniu, Wyd COS Warszawa

Example of training unit applied to swimmers with amputation of two legs on the height of thigh

Warming up

- Swimming, 400 m, changing style (II)

Main part

- Swimming, 4 x 100 m including:

50 m free style (III)

25 m classic style (V)

25 m back style (I)

starting 3 min after end of each series

- Swimming 200 m back style with emphasis put on improvement of swimming technique (II)
- Swimming 2 x 200 m free style (III) starting 4,5 min end of each series
- Swimming 200 m back style with emphasis put on improvement of swimming technique
- Swimming 4 x 100 m in including 50 m free style (III) 25 m classic style (V) 25 m back style (I) starting 3 min after end of each series
- Swimming 200 m - exercises to free style (II)
- Swimming 4 x 100 m, free style (IV) starting 3 min after end of each series

Final part

- Swimming 200 m back style with emphasis put on improvement of swimming technique (II)
- Swimming 200 m free style with emphasis put on improvement of swimming technique (II)

Distance swum during the training: 3000 m.

In the final part of training elements of kinezytherapy were applied depending on kind and extent of dysfunction. In this case (amputation of both legs) these elements were: poizometric relaxation of muscle of both thighs i.e. straightening, adduction and internal rotation of stump.

Legend:

I - free swimming

II - aerobic effort

III - aerobic-anaerobic effort

IV - anaerobic glycolitic effort

V - starting effort

### **ЗМІНИ ДЕЯКИХ МОРФОЛОГІЧНИХ ПАРАМЕТРІВ НЕПОВНОСПРАВНИХ ПЛАВЦІВ ПРОТЯГОМ ЇХ ПЕРЕБУВАННЯ У ТРЕНУВАЛЬНИХ ТАБОРАХ**

У статті розглядаються зміни деяких морфологічних параметрів неповносправних плавців протягом їх перебування у тренувальних таборах. Описано обсяг та характер фізичних навантажень та біологічні зміни, які відбуваються в організмі спортсмена:

- вага тіла та товщина жирової тканини значно зменшилися за час двотижневого перебування у тренувальному таборі;
- причини, які викликали зменшення досліджуваних параметрів: інтенсивна фізична робота та відповідна дієта;
- фізичні навантаження були визначені згідно з індивідуальними спортивними можливостями плавців.

## ДО ПИТАННЯ ПРО НАЦІОНАЛЬНІ ТА ІНТЕРНАЦІОНАЛЬНІ ТЕРМІНИ В УКРАЇНСЬКІЙ СПОРТИВНІЙ ТЕРМІНОСИСТЕМІ.

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Кожна мова розвивається у тісному взаємозв'язку з суспільством, у якому функціонує. Чим вищий рівень розвитку суспільства, тим на вищому щаблі стоїть його мова. Адже саме мова фіксує усі досягнення у різних галузях суспільного життя, починаючи з побутового і закінчуючи найновішими науковими досягненнями.

Спорт у наш час є явищем широко соціальним, невід'ємною частиною культури та способу життя людини. Спорт органічно пов'язаний з найрізноманітнішими сторонами життя суспільства: політикою, економікою, освітою, наукою, культурою. У спортивному світі у сконцентрованому вигляді постають і вирішуються проблеми притаманні реальному життю. Спорт завжди привертав увагу великої кількості людей. Спорт – це явище інтернаціональне. Саме тому у спортивній термінології функціонує багато запозичених термінів, які проникли у різні національні терміносистеми разом із поширенням того чи іншого виду спорту і стали інтернаціональними. Такі терміни уніфікуються, як у межах однієї мови, так і на міжнародному рівні, стають зрозумілими та доступними. Зафіксувати нові поняття у сфері фізичної культури та спорту допомагає спортивна термінологія.

У науковій літературі можна знайти різні визначення поняття “термінологія”. І. Ковалик, О. Реформатський під термінологією розуміють частину словникового складу мови, що охоплює спеціальну систему позначень наукових та професійних понять будь-якої галузі.

Термінологія – це також сукупність термінів, що входять у певну термінологічну систему [1].

Термін – це слово або словосполучення, яке означає конкретне поняття в певній галузі людської діяльності [1].

З розвитком та становленням української мови як державної українська наукова термінологія дедалі частіше стає об'єктом наукових досліджень. Протягом останніх років значно зросла необхідність вивчення галузевих терміносистем. Так були проведені дослідження української психологічної термінології, [Велинець Л. (1997)], української термінології з генетики, [Соколовська Т.(1999)], української термінології ринкових відносин, [Покровська Т.(1995)], української мовознавчої термінології, [Захарчин В. (1995)], української церковної термінології, [Бібла С. (1995)], української філософської термінології, [Довтобрюх Н. (1991)], та інших галузевих терміносистем.

Однак спортивна термінологія не стала об'єктом багатьох досліджень. Лише Паночко М. (1978) та Янків І. (2000) вивчали та аналізували окремі аспекти української термінології з фізичної культури і спорту [2, 3]. Зважаючи на актуальність наукових досліджень і нагальну потребу практики ми поставили собі за мету вивчити питання формування, розвитку