

ГОШОВСЬКА Л. М., ЮРКО Н. А.

# АНГЛІЙСЬКА МОВА

для спеціалістів та магістрів  
спеціальності «фізична реабілітація»

НАВЧАЛЬНИЙ ПОСІБНИК



**ЛЬВІВСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ ФІЗИЧНОЇ КУЛЬТУРИ**

**Кафедра української та іноземних мов**

**ГОШОВСЬКА Л. М., ЮРКО Н. А.**

# **АНГЛІЙСЬКА МОВА**

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**для спеціалістів та магістрів  
спеціальності  
«фізична реабілітація»**

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Компанія «Манускрипт»  
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У навчальному посібнику представлено основні розмовні теми спеціальності «фізична реабілітація». Навчальні матеріали посібника спрямовані на формування навичок усного та писемного професійного мовлення. Навчальний посібник призначений для спеціалістів та магістрів спеціальності «фізична реабілітація», які навчаються за кредитно-модульною системою.

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## ВСТУП

Україна упевнено встала на шлях європейської інтеграції. Окрім вирішення економічних та соціальних завдань особливо актуальними постають проблеми впровадження та дотримання європейських стандартів у професійній підготовці випускників ВНЗ. **Володіння іноземними мовами з метою професійного спілкування** набуває провідного значення у вищому немовному закладі освіти. Іноземна мова для професійного спілкування стає однією з найважливіших ланок фахового навчання, яка забезпечує умови адаптації студентів до майбутньої професійної діяльності.

Фізична реабілітація є однією з наймолодших спеціальностей на вітчизняному ринку послуг, і розвиток цієї галузі залежить насамперед від якості професійної підготовки працівників.

Міжнародні стандарти вимагають від фахівців фізичної реабілітації глибоких знань іноземних мов, які потрібні як для власного професійного зростання, яке полягає в постійному ознайомленні з новітніми методиками впровадження реабілітаційних засобів, участі у міжнародних студентських конференціях тощо, так і для майбутньої практичної діяльності, підтримки зв'язків з профільними іноземними організаціями, бізнес-партнерства та особистих контактів з фахівцями іноземних країн.

Розробка посібника з англійської мови цільового призначення для майбутніх реабілітологів, що навчаються за кваліфікаційним рівнем «спеціаліст» та «магістр», була викликана нагальною потребою у сучасних професійно орієнтованих навчально-методичних матеріалах.

Засадничим концептуальним положенням, покладеним в основу створення посібника, стала його орієнтованість на майбутню професію фахівця з фізичної реабілітації, що здійснюється шляхом **навчання іншомовного мовлення через зміст спеціальності**, тобто студенти отримують можливість оволодівати англійською мовою на основі реальних фахових проблем. Цей принцип забезпечується залученням до посібника виключно автентичних фахових дискурсів різних жанрів (від зразків спеціальної наукової літератури до

дискусійних матеріалів ЗМІ, присвячених проблемам підготовки молодих наукових кадрів в Україні та за кордоном) із друкованих та електронних джерел.

У посібнику також наводяться **зразки проблемних і ситуативних завдань**, у яких моделюються певні професійні ситуації, а від студентів очікується виявлення вмінь прийняти відповідне професійне рішення та оформити його за допомогою англійських вербальних засобів.

До інноваційних прийомів у посібнику можна віднести упровадження **наскрізної проектної роботи студентів**, яка полягає в упорядкуванні упродовж курсу навчання індивідуальних професійних термінологічних глосаріїв, які наприкінці курсу об'єднуються, коректуються і являють собою кінцевий матеріальний продукт виконаного проекту. Цей вид початкової роботи вимагає умінь і навичок користування мережею Інтернет та інформаційного пошуку на професійних англійських сайтах та у галузевих словниках.

Іншою особливістю посібника є велика питома частка **оригінального текстового матеріалу** та відповідних завдань для розвитку навичок ознайомлювального, переглядового та пошукового читання, тобто саме тих видів читання, якими послуговується зрілий читач при відборі професійно релевантної інформації.

Ще однією концептуальною характеристикою посібника є **інтеграція усіх видів мовленнєвої діяльності** (усного мовлення, аудіювання, читання, письма) у навчальному процесі.

Посібник побудовано у відповідності з кредитно-модульною системою організації навчального процесу, що запроваджується в Україні.

Навчальний посібник з англійської мови професійного спрямування складається із 2-х модулів, кожен з яких містить 2–3 розділи (усього 5 розділів — Units). Розділи посібника тематично присвячені розгляду наступних проблем:

- Фізична реабілітація при спортивному травматизмі;
- Дитячий церебральний параліч та відповідні реабілітаційні заходи;
- Фізична реабілітація у педіатрії;
- Психологічні проблеми у фізичній реабілітації;

- Підготовка молодих наукових кадрів в Україні.

Усі розділи посібника завершуються контролюючими завданнями переважно тестової форми контролю. Кожен розділ опрацьовується упродовж п'яти-шести практичних занять та восьми-десяти годин індивідуальної самостійної роботи.

Аудиторне та самостійне опрацювання матеріалів посібника покликане допомогти студентам розвинути навички комунікативної компетенції для ефективного спілкування англійською мовою у професійному середовищі з метою:

- обговорення навчальних та пов'язаних зі спеціалізацією питань заради досягнення порозуміння зі співрозмовником;
- підготовки публічних виступів з цілої низки галузевих питань, застосовуючи відповідні засоби вербальної комунікації та адекватних форм ведення дискусій;
- отримання даних (текстової, графічної, відео інформації), що є необхідними для виконання професійних завдань та прийняття професійних рішень;
- перекладу англійських професійних текстів на рідну мову, користуючись двомовними термінологічними словниками, електронними словниками та іншим програмним забезпеченням;

Посібник з англійської мови професійного спрямування призначений для студентів вищих профільних навчальних закладів III–IV рівнів акредитації, для спеціалістів та магістрантів, які спеціалізуються за фахом «фізична реабілітація» та вивчають професійну англійську мову, а також для працівників медичних установ та фахівців практичної охорони здоров'я, які потребують знання спеціалізованої англійської мови у своїй професійній діяльності.

UNIT 1

PHYSICAL REHABILITATION IN SPORTS TRAUMATISM

I. A . COMPREHENSION AND DISCUSSION

1. Learn the vocabulary to TEXT 1A "SPORTS INJURIES". Pay special attention to terminological and synonymous expressions.

to occur=to happen=to befall	[ə'kɜ:]	траплятися, відбуватися
due to=because of=owing to		через щось, в результаті чогось
overuse	[,əuvə'ju:s]	перенапруження, перенавантаження, перетренованість
acute trauma	[ˈpɔɪnjənt]	сильне / важке ушкодження
acute=poignant=piercing=sharp		гострий = різкий = пронизливий
stress injury		утомна травма (від частого повторення)
torn muscle/ligament/tendon		розрив м'язу, зв'язки, сухожилка
traumatic injury		травматичне ушкодження
overuse injury		травма, отримана внаслідок перенапруження
to account for		(тут) спричиняти
collision		зіткнення
collision nature of the sport		вид спорту, котрому притаманні зіткнення між спортсменами та навала
muscle strain=muscle pull		розтягнення / розтяг м'язів
sprain		розтягнення внаслідок вивиху
tear (v, n)	[tiə]Br [tiə]Am	1. розірвати, надірвати; 2. розрив
body's response		реакція організму
to follow immediately		безпосередньо супроводжувати
inflammation	[,ɪnflə'meɪʃ(ə)n]	запалення, запальний процес
localized swelling	[ˈləʊk(ə)laɪzd]	місцевий набряк
heat	[hi:t]	жар, підвищена температура
loss of function		втрата функціональної діяльності
dead cell	[ded] [sel]	омертвіла клітина
to release = discharge = free chemicals	[ri li:s]	виділяти хімічні речовини
to initiate / to begin an inflammation response	[ɪ'nɪʃieɪt]	стимулювати / запускати реакцію запалення
blood clot		кров'яний згусток
healing process		процес загоєння
by laying down scar tissues	[ˈtʃu:] [-sju:]	шляхом утворення рубцевої тканини
callous tissue	['kæləs]	мозолиста тканина
to delay=to postpone the return to activities		затримати = відтермінувати повернення до діяльності
to manage an injury		надавати допомогу при ушкодженні
primary=initial stage	[ˈpraɪm(ə)rɪ]	початкова стадія
cardinal=chief=main=important to address the cardinal manifestations		головний = основний = важливий реагувати, звертати увагу на основні прояви



*II. Read TEXT 1A in order to take part in a discussion. The issues for the discussion follow the text:*

**TEXT 1A**

**SPORTS INJURIES**

1. **Sports injuries** are minor and gross traumas that occur in athletic activities. In many cases, these injuries are due to overuse or acute trauma of a part of the body when participating in a certain activity. For example, runner's knee is a painful condition generally associated with running, while tennis elbow is a form of repetitive stress injury at the elbow. Other types of injuries can be caused by a hard contact with some objects. This can often cause a broken bone or torn ligament or tendon.

2. Thus sports injuries could be classified mainly as either traumatic or overuse injuries. Traumatic injuries account for most injuries in contact sports such as Association football\*, rugby league\*\*, rugby union\*\*\*, Australian rules football\*\*\*\*, Gaelic football\*\*\*\*\* and American football because of the dynamic and high collision nature of these sports. These injuries range from bruises and muscle strains, to fractures and head injuries.

3. Other most risky kind of sports for men is soccer, which accounts for 50% of total number of injuries. It is followed by wrestling (17%) and track and field (10%). Women's injuries occur mainly in tennis (38%), gymnastics (20%) and basketball (15%).

4. A bruise is a minor damage to small blood vessels, which causes bleeding within the tissues. A muscle strain is a minor tear of muscle fibers and a ligament sprain is a small tear of ligament tissue. The body's response to these sports injuries is the same in the initial five day period immediately following the traumatic incident — inflammation. Inflammation is characterized by pain, localized swelling, heat, redness and a loss of function.

5. All of these injuries cause damage to the cells that make up the soft tissues. The dead and damaged cells release chemicals, which initiate an inflammatory response. Small blood vessels are damaged, producing bleeding within the tissue. In the body's normal reaction, a small blood clot is formed in order to stop this bleeding.

From this clot special cells (called fibroblasts) begin the healing process by laying down scar or callus tissues.

6. The inflammatory stage is therefore the first phase of healing. However, too much of an inflammatory response in the early stage can mean that the healing process takes longer and a return to athletic activities is delayed. The sports injuries treatment is intended to minimize the inflammatory phase of an injury, so that the overall healing process is accelerated.

7. Sports injuries can be managed and treated by using the modes called: P.R.I.C.E. (meaning “protection, rest, ice, compression, elevation”); SDR (which means “stabilize danger response”); ABC (denoting “airway, breathing and circulation”), and T.O.T.A.P.S, which means: talk, observe, touch, active movement, passive movement and skill test.

8. The primary inflammatory stage typically lasts around 5 days and all treatment during this time is designed to address the cardinal manifestations of inflammation (pain, swelling, redness, heat and a loss of function).

\* *Association football* — more formal term for “soccer” called so because it is played according the rules of the Football Association.

\*\* *rugby league* — a form of rugby played in teams of thirteen, originally by a group of northern English clubs which separated from rugby union in 1895. Besides having somewhat different rules, the game differed from rugby union in always allowing professionalism.

\*\*\* *rugby union* — a form of rugby played in teams of fifteen. Unlike rugby league, the game was originally strictly amateur, being opened to professionalism only in 1995.

\*\*\*\* *Australian rules football* — a form of football played on an oval ground with an oval ball by teams of eighteen players. Official name is Australian National football. The game dates from 1858. Players may run with the ball if they touch it to the ground every fifteen meters, and may pass it in any direction by punching. There are both inner and outer goalposts.

\*\*\*\*\* *Gaelic/gaɪlɪk/football* — a type of football played mainly in Ireland between teams of fifteen players, with a goal resembling that used in rugby but having a net attached. The object is to kick or punch the round ball into the net (scoring three points) or over the crossbar (one point).

### ***III. Take part in a discussion according to the following issues:***

- ***Causes and effects of sports injuries***
- ***Classification and types of sports traumas***
- ***Most traumatically risky sports***
- ***Manifestations of a trauma in athletic activities***
- ***Management and treatment of sports injuries***

### VOCABULARY CONSOLIDATION

**IV. Read Text 1A again to find the words whose definitions are given below. The number of the paragraph where each appropriate word can be found is given in brackets.**

1. \_\_\_\_\_ to increase in amount or extent; begin to move more quickly (6)
2. \_\_\_\_\_ injure (a limb, muscle, or organ) by overexerting it (2)
3. \_\_\_\_\_ a localized physical condition in which part of the body becomes reddened, swollen, hot and painful, especially as a reaction to injury or infection (4,8)
4. \_\_\_\_\_ a gelatinous or semisolid mass of coagulated blood (5)
5. \_\_\_\_\_ excessive training bringing damage to muscles, tendons or ligaments (1)
6. \_\_\_\_\_ damage (a muscle or ligament) by overstretching it (4)
7. \_\_\_\_\_ an abnormal enlargement of a part of the body, typically as a result of an injury or an illness (4, 8)
8. \_\_\_\_\_ an escape of blood from a ruptured blood vessel/ haemorrhage (5)
9. \_\_\_\_\_ allow (something) to move, act, or flow freely; to discharge (5)
10. \_\_\_\_\_ the action of raising or being raised to a higher level or position (7)
11. \_\_\_\_\_ condition that becomes severe very quickly but does not last very long (1)
12. \_\_\_\_\_ something that happens, often something that is unpleasant (4)
13. \_\_\_\_\_ instance of one moving object or person striking violently against another (2)
14. \_\_\_\_\_ make (someone or something) late or slow (6)
15. \_\_\_\_\_ the bony healing tissue which forms around the ends of broken bone (5)

**V. Complete the sentences with the relevant word combinations from the box.**

a) rest, ice, compression	f) which accounts for 50 per cent
b) a small tear	g) typically lasts
c) generally associated	h) laying down scar or callus tissues
d) a small blood clot is formed	i) overuse or acute trauma
e) in the early stage	j) an inflammatory response

1. The primary inflammatory stage \_\_\_\_ around 5 days.
2. The dead and damaged cells release chemicals, which initiate \_\_\_\_.
3. A ligament sprain is \_\_\_\_ of ligament tissue.
4. Sports injuries are due to \_\_\_\_ of a part of the body when participating in a certain activity.
5. Runner's knee is a painful condition \_\_\_\_ with running.

6. P.R.I.C.E. means “protection, \_\_\_\_\_, ice, compression and elevation”.
7. Too much of an inflammatory response \_\_\_\_\_ can mean that a return to athletic activities is delayed.
8. Special cells (called fibroblasts) begin the healing process by \_\_\_\_\_.
9. One of the most risky kinds of sports for men is soccer, \_\_\_\_\_ of total number of injuries.
10. In the body’s normal reaction, \_\_\_\_\_ in order to stop this bleeding.

**VI. Fill in the table with the missing parts of the speech. A few spaces might be left blank:**

Noun	Verb	Adjective	Adverb
activities			protectively
	to function		
		responsive	
repetition			typically
	to initiate		
skill			

**VII. Complete the sentences with the suitable parts of the speech from the previous task:**

1. Weather forecasters say the spring may not be as late as \_\_\_\_\_ predicted.
2. Three months before birth babies are already \_\_\_\_\_ to sound.
3. Someone who is \_\_\_\_\_ at something does it very well.
4. She has \_\_\_\_\_ denied his proposals of marriage.
5. He’s a former runner but he continues to be \_\_\_\_\_ in athletics.
6. These two body structures might differ morphologically without differing \_\_\_\_\_.
7. Skiing resort guests can enjoy extra \_\_\_\_\_ like swimming and spa procedures.
8. We received 100 applications in \_\_\_\_\_ to one job advertisement.
9. \_\_\_\_\_ measures are necessary if the city’s monuments are to be preserved.
10. Exercising helps the heart and the lungs \_\_\_\_\_ efficiently.



## I. B. COMPREHENSION AND DISCUSSION

**VIII. Learn the vocabulary to Text 1B. Read the text and do the after-text activities.**

*Think of the ways how to headline the article. Some prompts that might help you are following the text.*

<b>to abound in/with = to be full of</b>		бути заповненим, повним
<b>to increase = to rise = to enlarge increase (n) = growth increased interest</b>	[ in'kri:z] [ 'inkri:s]	збільшувати(-ся), зростати збільшення, зростання більша зацікавленість
<b>to account for</b>	[ə'kaunt]	( <i>тум</i> ) пояснювати
<b>to occur = to happen</b>		траплятися, ставатися
<b>cause to be caused by</b>	[ kɔ:z]	Причина спричинитися до чогось, бути викликаним чимось
<b>error = mistake = fault</b>		Помилка
<b>balance = equilibrium</b>	[ ,ɪkwɪ'brɪəm]	баланс, рівновага, перерозподіл ваги
<b>flexible flexibility</b>		гнучкий, пружний гнучкість, пружність
<b>bulk = load / loading</b>		вантаж, навантаження, основна маса
<b>anatomic misalignment</b>	[mɪsə'laimmənt]	анатомічне відхилення
<b>growing-up</b>		ріст, процес зростання
<b>faulty playing surface</b>	[ 'fɔ:lɪ]	пошкоджена ігрова поверхня
<b>contrary to the common opinion</b>		усупереч загальній думці
<b>to be able to enable = to allow</b>		бути здатним, могли надавати можливість, дозволяти
<b>to regain sporting abilities</b>		відновити спортивні навички і уміння
<b>immediate objective immediately = at once</b>	[ɪ'mi:diət]	безпосереднє завдання відразу, негайно
<b>to reduce possibility</b>		зменшити можливість
<b>supervised rehabilitation programme</b>		контрольована реабілітаційна програма
<b>long-term goal</b>		далекосяжна мета
<b>general measures</b>	[ 'meʒəz]	загальні засоби
<b>premature return</b>	[ ,premə'tjuə]	передчасне повернення
<b>appropriate</b>	[ə'prəʊpriət]	відповідний, належний
<b>vertical leaping</b>		стрибки вгору
<b>squatting</b>	[skwɒtɪŋ]	присідання
<b>supportive or preventive device</b>		допоміжні або запобіжні пристрої
<b>to supplement</b>	[ 'sʌplɪmənt]	доповнювати
<b>to provide = to supply</b>		забезпечувати

### **TEXT 1B**

Playgrounds, fields, pits, gyms, courts and pools abound in young people going in for sports. The increasing interest in sports increases the risk of injuries. An injury can be caused by a single macrotrauma or a repetitive microtrauma. Repetitive trauma or “overuse” might happen as a result of six risk factors, which are as follows:

1) training errors; 2) wrong balance of strength, flexibility or bulk; 3) anatomic misalignment of the lower extremities; 4) faulty playing surface; 5) associated diseases of the lower extremities, such as old injuries or arthritis; 6) growing-up.

Contrary to the common opinion, athletes are not able to regain their sporting abilities immediately. They need supervised rehabilitation programmes that begin at the playground. The immediate objective lies in reducing any possibility of further harm. The long-term goal of rehabilitation is to restore all functions of the young organism that enable athletes to play and to do sports without any risk. The general measures of rehabilitation are aimed at improving the work of cardiovascular system by normalizing mobility and flexibility of the joints.

Complete rehabilitation is synonymous to return to play. Premature return to athletic activities can put a sportsman at a risk of a repeated injury and the development of chronic disease. The criteria for the return include full, painless and biomechanically normal mobility, strength and passing appropriate functional tests such as vertical leaping, running or squatting. Supportive or preventive devices can supplement rehabilitation process and provide stability and anatomic alignment of the body to sporting demands.

***IX. Which of the following titles in your opinion best corresponds to the content of the article you've just read?***

- Long-term Goals of Athletes' Rehabilitation.
- Traumatic Risk Factors in Athletes Training.
- General Approaches to Sports Injuries Rehabilitation.
- The More We Exercise, the Less Subjected to Injuries We Are.
- Physical Therapy Modalities.

**X. Are these statements true or false? Correct the false statements.**

1. Young athletes are able to regain their sporting abilities within a short period of time after injuries.
2. Anatomic misalignment of the lower limbs belongs to one of the risk factors.
3. Complete rehabilitation means returning to play having restored all the functions of the body.
4. The most risky kind of sport for men is track-and-field.
5. Repetitive trauma might be caused mainly by a faulty playing surface.

**XI. Express your opinion on the following statements. Commenting on the statements use the following phrases:**

Agreement:		Disagreement:	
As I see it	На мій погляд	I don't (happen to) think so	Я іншої думки
In my opinion	На мою думку	I can't agree with this	Я не можу з цим погодитись
As far as I can see	Наскільки я розумію	I shouldn't say so	Я б так не сказав
I fully / certainly agree with this	Я повністю погоджуюсь з цим	Of course not / Not in the least	Нічого подібного
I should say so	Мабуть, що так	You never know	Важко сказати
It's common knowledge that	Усім відомо, що	I must express some disagreements with	Я не зовсім згоден з ...

1. The increased interest in sports increases the risk of injuries.
2. There is no need to pass special functional tests before returning to sporting activities, unless an athlete feels not quite fit.
3. The long-term goal of rehabilitation is to restore all functions of the sportsman's organism that enable him to do sports without any risk.
4. An injury can be caused by a lot of risk factors, wrong balance of strength being the most critical of all other factors.
5. Complete rehabilitation means the return to physical activities despite the remnants of former injury.
6. Old injuries or other associated diseases seldom if ever are able to cause a repetitive trauma.

**VII. Answer the following questions. Discuss your answers with the group-mates.**

1. Why has the risk of injuries increased recently?
2. What are the main risk factors, which might cause a trauma?
3. Can an injured athlete regain his/her sporting abilities immediately?
4. What is the difference between immediate objective of rehabilitation and its long-term goal?
5. How can an athlete improve the work of his cardiovascular system?
6. Why is “a complete rehabilitation” synonymous to “a return to play”?
7. What are the criteria for a return to athletic activities?
8. Does the post-traumatic rehabilitation need any supervision?

**VIII. Here is the list of injuries that might occur while practicing sports. Provide their Ukrainian equivalents. Fill in the table. Use your imagination to think of causes and possible rehabilitation measures for the enumerated injuries:**

Injury		Cause		Rehabilitation measures	
1.	a broken arm	перелом руки	1. a fall during a football match	1.	immobilization of the arm, putting a plaster, special exercises for flexibility
2.	a bruise		2.	2.	
3.	a dislocated shoulder		3.	3.	
4.	a sprained ankle		4.	4.	
5.	cramps		5.	5.	
6.	swelling		6.	6.	
7.	brain concussion		7.	7.	



## II. A. READING AND COMPREHENSION

### XIV. Review the vocabulary units before reading each item of TEXT 2A "MAJOR COMPONENTS OF ATHLETES' REHABILITATION PROGRAMME".

Read the text and find the information to comment on the following issues:

- The overall goal of athlete's rehabilitation.
- Name five major components of athlete's rehabilitation.
- Physiological dysfunctions that decrease the range of motion and flexibility of joints.
- Rehabilitation modes recommended to restoring muscle strength.
- The basic principles of isotonic, isometric and isokinetic exercises.
- Component of athletes' rehabilitation accomplished by traditional physical activities such as swimming or cycling.
- The way stress is recommended to apply to the joint under rehabilitation.
- The most important component of athlete's rehabilitation.

### TEXT 2A

#### MAJOR COMPONENTS OF ATHLETES' REHABILITATION PROGRAMME

<p>The overall goal of athlete's rehabilitation is <i>to enable</i> the injured athlete <i>to resume participation</i> at a level of skill and ability <i>similar to</i> that <i>level of performance</i> present <i>prior to</i> the injury in as short period of time as is safe <i>with respect to the injury</i>. Athletes' rehabilitation programme is the process of restoring five major components encompassing: flexibility; strength; endurance; <i>proprioception</i>; <i>agility</i> and skills.</p>	<p><i>to enable</i> – надавати можливість  <i>to resume participation</i> – знову брати участь  <i>similar to</i> – подібний до, схожий  <i>level of performance</i> – рівень виконання  <i>prior to</i> – перед, раніше  <i>with respect to injury</i> – стосовно травми  <i>proprioception</i> – пропріо(ре)цепція  <i>agility</i> – рухливість, спритність</p>
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<p><b>Flexibility</b> is the first component of an athlete's rehabilitation. Generally following an injury, there is some <i>loss</i> of range of motion (ROM) and in many cases increased <i>muscle guarding</i>. This results in <i>stiffness</i> in the joints as well as <i>lack of extensibility</i> in the</p>	<p><i>loss</i> – втрата  <i>muscle guarding</i> – захистна фіксація м'язів  <i>stiffness</i> – жорсткість, ригідність  <i>lack of extensibility</i> – недостатня розтяжність</p>
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<p><b>musculotendinous units.</b> Exercises to improve flexibility might include active, active assisted and passive joint range of motion, mobilization and a variety of facilitated stretching techniques for the musculotendinous units.</p>	<p><b>musculotendinous unit</b> – м'язовосухозильковий відділ  <b>facilitated stretching technique</b> – допоміжні методики розтягування</p>
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<p>The second component of rehabilitation is <b>strength</b>. Strength exercises may be done in either isometric, isotonic or isokinetic modes. Isometrics are particularly <b>suitable</b> for the more <b>acute injury stage</b> because the intensity of the exercise can be <b>adjusted</b> by the patient athlete <b>to avoid</b> creating additional symptoms. The athlete may also exercise an injured joint in a position of <b>relative comfort</b> avoiding the extremes of the available ROM. <b>Disadvantages</b> of isometrics are that they are static rather than dynamic in nature.</p>	<p><b>suitable</b> – придатний; підходящий  <b>acute stage</b> – стадія загострення  <b>to adjust</b> – адаптувати, пристосовувати  <b>to avoid</b> – уникати  <b>relative comfort</b> – (тут) відносно зручне положення  <b>disadvantage</b> – недолік</p>
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<p>Isotonic exercises are the most common strengthening techniques used in rehabilitation of athletes. These involve <b>taking a joint through a specific ROM against a fixed resistance</b>. The resistance may be applied to the <b>shortening contraction</b> of the muscles (concentric exercise) or to the <b>lengthening</b> or <b>controlling contraction</b> (eccentric contractions). Advantages are that the isotonic exercises are dynamic and have a wide variety of application to most sports skills. Isokinetic exercise involves moving a joint through a ROM against a device that controls the speed of movement rather than the resistance. The advantage here is that the resistance accommodates to the changes in the biomechanical efficiency of the joint through the ROM.</p>	<p><b>taking a joint through a specific ROM against a fixed resistance</b> - проведення суглоба через фіксований/постійний опір з метою збільшення амплітуди руху  <b>shortening contraction</b> – стискання  <b>lengthening / controlling contraction</b> – контрольоване розтягування</p>
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<p>The third component of athletes' rehabilitation is <b>endurance</b>. Endurance includes increasing both anaerobic and aerobic <b>muscular capacity</b> as well as aerobic and anaerobic cardiovascular capacity. Increasing</p>	<p><b>muscular capacity</b> – спроможність, здатність м'язів •  <b>to adjust the sets</b> – пристосовувати пристрої</p>
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<p>cardiovascular endurance can be accomplished by <b>adjusting the sets</b>, number of repetitions, resistance and speed of specific strength-training activities. Increasing individual muscular endurance can be accomplished through traditional activities such as running, cycling, <b>stair-stepper machines</b>, swimming, upper extremity <b>cycle ergometers</b>, <b>cross-country ski machines</b>, <b>elliptical training machines and other means</b>.</p>	<p><b>stair-stepper machine</b> – пристрій, що імітує сходінки  <b>cycle ergometer</b> – велоергометр  <b>cross-country ski machine</b> – пристрій, що імітує біг на лиццатах  <b>elliptical training machine</b> – еліптичний тренувальний пристрій</p>
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<p>The fourth component of athletes' rehabilitation is <b>proprioception</b>. This involves activities <b>to regain the ability</b> of an injured muscle and joint <b>to judge position in space</b>. Devices and activities such as a <b>single leg stance</b> for balance, basic balance boards (<b>uniaxial</b>), advanced balanced boards (<b>multiaxial</b>) can be used. <b>Stress to joint is applied very mildly</b> at first with the injured area being protected from going to extreme ROM. The amount of movements, the amount of <b>weight bearing</b> on the injured limb and complexity of the exercises are advanced as the injured athlete is able to tolerate. Upper extremity proprioceptive exercises also can be initiated by weight bearing on the hand, on the balance board or on a ball.</p>	<p><b>to regain / to resume the ability</b> – відновити здатність  <b>to judge position in space</b> – орієнтуватися у просторі  <b>uniaxial / multiaxial</b> – з однією віссю / з кількома осями  <b>single leg stance</b> – положення стоячи на одній нозі  <b>to apply stress mildly</b> – (тут) поступово збільшувати силу, що прикладається  <b>weight bearing</b> – навантаження (силове)</p>
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<p>The fifth area of rehabilitation is <b>agility and skills drills</b>. This is the more advanced phase that <b>accommodates</b> an athlete's rehabilitation specifically toward the sport and activity that an athlete wishes to resume. These are fundamental drills for a given sport progressing from very basic to more complex. This is a process of <b>progressive motor learning</b> and <b>motor relearning</b>. No single component of rehabilitation is more important than the other. Depending on the initial level of the athlete's condition, the <b>amount of deconditioning</b> that has occurred since the injury, the competitive level of the athlete and the specific sport involved, any of these components could be <b>deemed</b> more significant.</p>	<p><b>agility and skills drills</b> – вправи на розвиток рухових навичок та спритність  <b>to accommodate</b> – пристосовувати  <b>progressive motor learning</b> – поступове оволодіння руховими навичками  <b>motor relearning</b> – відновлення рухових навичок  <b>amount of deconditioning</b> – рівень детренованості  <b>deem / regard / consider</b> – вважати</p>
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### III. A. LISTENING AND COMPREHENSION:

**VI. You are going to listen to/ read the information on American orthopedists' achievements in restoring basic ambulation skills in patients with broken spinal cord. Are you in the know of any medical strides of this type in your country? Before listening/reading get acquainted with the basic vocabulary to the text:**

<b>to relearn the rudiments of walking</b>	відновити залишкові навички ходіння
<b>to perform certain stepping motions from the waist down</b>	виконувати певні рухи для здійснення кроків нижче талії
<b>to suspend a patient over the treadmill</b>	підвішувати пацієнтів над тренажером "рухома доріжка"
<b>to bear more of their own weight themselves</b>	частково утримувати власну вагу
<b>to recognize nerve signals</b>	розрізняти нервові сигнали
<b>to regain partial voluntary control</b>	частково відновити вольовий/свідомий контроль
<b>the halt and the lame</b>	люди з вадами руху



It is acknowledged that if your spinal cord is broken, you will never walk again. Your brain can no longer tell your legs what to do. Yet at the annual conference of the National Neurotrauma Society in Los Angeles, in 1992, Susan Harkema of the University of California described how 7 of her patients, whose spinal cord had been completely broken, were able to relearn the rudiments of walking.

Dr. Harkema and her colleagues have shown that all that is needed is an appropriate training. They have developed a technique, which enables patients to perform certain stepping motions. People who lost all feelings in their bodies from the waist down and control over their lower limbs learn how to regain walking.

Dr. Harkema and her team achieved good results by suspending patients over the treadmill in bands resembling a parachute. A trainer helped the patient to perform legs movements, placing his foot on the treadmill step by step.

Over the course of a few months all 7 patients developed the rudiments of walking. Although they were still unable to balance properly, they were able to bear more of their own weight themselves. In other words, their spinal cord had learnt to



recognize nerve signals coming from their leg muscles. With practice, Dr. Harkema believes, it is possible that patients could regain partial voluntary control over their lower limbs. With luck, life may now improve for this particular group of the halt and the lame.

**XVI. Listen to the information again and choose the most appropriate heading to the text:**

- a) New rehabilitation methods of American scientists.
- b) Rehabilitation on a treadmill.
- c) New approach in spinal-cord rehabilitation.
- d) Helping the halt and the lame.

**XVII. According to what you have listened to, are these statements true (T) or false (F)? Justify your choice.**

1. Dr. Harkema claimed that her team has developed a special method of paralyzed patients rehabilitation.
2. People, whose spinal cord has been broken loose feelings and control over their bodies.
3. Over the course of special training on a treadmill all 7 patients developed full control over their lower limbs.
4. Dr. Harkema suggested that her patients should perform some leaping and squatting exercises to regain walking abilities.
5. Through the course of rehabilitation programme the patient's spinal cord gradually learns to recognize nerve signals coming from his leg muscles.

**VIIII. We'd like to bring to your attention an Alphabetic quiz. Read the clues and write the words that begin with the following letters of the alphabet:**

- Aa \_\_\_\_\_ – move more quickly; speed up;  
Bb \_\_\_\_\_ – an injury which appears as a purple mark on your body, although the skin is not broken;  
Cc \_\_\_\_\_ – it occurs when a moving object crashes into something;  
Dd \_\_\_\_\_ – physical harm caused to something in such a way as to impair its normal function;  
Ee \_\_\_\_\_ – the action of raising or being raised to a higher level or position;  
Ff \_\_\_\_\_ – the quality of bending easily without breaking or tearing;  
Gg \_\_\_\_\_ – a place providing a range of facilities designed to improve and maintain physical fitness and health;  
Hh \_\_\_\_\_ – the process of making sound or healthy again;  
Ii \_\_\_\_\_ – the reaction of living tissue to injury or infection, characterized by heat, redness, swelling, and pain;  
Jj \_\_\_\_\_ – a structure in the human or animal body at which two parts of the skeleton are fitted together;  
Kk \_\_\_\_\_ – facts, information, and skills acquired through experience or education;  
Ll \_\_\_\_\_ – a short band of connective tissue which connects two bones or cartilages or holds together a joint;  
Mm \_\_\_\_\_ – a symptom of an ailment;  
Nn \_\_\_\_\_ – part of an integumentary system that grows at the ends of your fingers and toes;  
Oo \_\_\_\_\_ – excessive monotonous training bringing damage to muscles, tendons or ligaments;  
Pp \_\_\_\_\_ – highly unpleasant physical sensation caused by illness or injury;  
Qq \_\_\_\_\_ – paralysis of all four limbs;  
Rr \_\_\_\_\_ – to take or get back; recover;  
Ss \_\_\_\_\_ – injure (a limb, muscle, or organ) by overexerting it;  
Tt \_\_\_\_\_ – a flexible but inelastic cord of strong fibrous collagen tissue attaching a muscle to a bone;  
Uu \_\_\_\_\_ – the right and the left arms are called ...  
Vv \_\_\_\_\_ – under the conscious control of the brain;  
Ww \_\_\_\_\_ – the middle part of the body where it narrows slightly above the hips;  
Xx \_\_\_\_\_ – a photographic or digital image of the internal composition of a part of the body, produced by special rays being passed through it;  
Zz \_\_\_\_\_ – a special device that old or ill people sometimes use to help them walk.

#### IV. A. READING AND WRITING

**XIX. Read the following article with the help of a dictionary.**

- **Accomplish a written translation into Ukrainian.**
- **Assign the key words and write an abstract of the article in English.**

#### PHYSICAL THERAPY MODALITIES



**Cryotherapy.** Cryotherapy is the treatment of an injury or a disease with cold. It is used for immediate care and rehabilitation of soft tissue injuries and other musculoskeletal problems. The types of cold therapy typically used are ice packs / poultices, ice cup massage, cold water immersion baths, Cryotemp compression, vapour-coolant sprays and off-the-shelf cryocuffs. The optimal therapeutic temperature is 10–18°C.

The effects of cryotherapy on the human body are as follows: Cryotherapy

- decreases metabolism
- produces vasoconstriction; decreases hematoma formation
- delays inflammation but does not eliminate the inflammatory response or decrease long-term chronic inflammation
- reduces swelling in soft tissue injuries
- decreases pain by slowing nerve conduction and decreasing muscle spasms
- decreases tissue temperature to a depth of 4 cm.



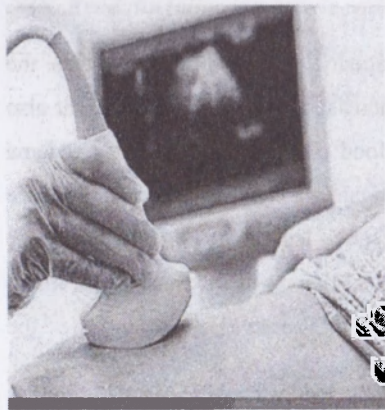
**Heat.** Therapeutic heat is indicated when the goal is to increase tissue temperature. Heat also increases blood flow to body tissues, edema formation, ligament capsular fiber and muscle elasticity and leukocyte and phagocyte migration. Heat therapy is also used to decrease muscle tone or spasms, to accelerate the metabolic process and to decrease pain.

Superficial heat modalities include warm whirlpools, paraffin baths, fluidotherapy and moist heat from hydrocollator packs. Deep heating modalities include ultrasound and the diathermies (shortwave and microwave).



**Iontophoresis** produces direct current to drive ionized medications through the skin. Positive and negative surface electrodes are used to repel ions with positive and negative charges through the skin. Tissue pathologies that can be treated with iontophoresis include tendinitis, bursitis, superficial muscle strains, neuromas, localized cysts, calcific deposits, scar / adhesions and hyperhidrosis.





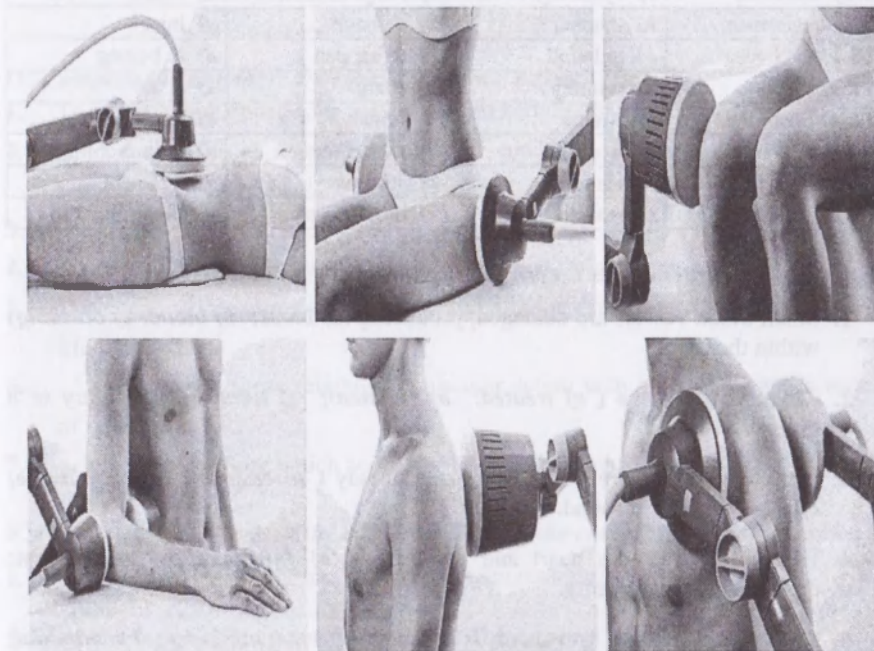
**Ultrasound** is the use of inaudible, acoustic, mechanical vibrations of high frequency that produce thermal and nonthermal physiologic effects in human tissue.

**Continuous ultrasound** typically is used during the subacute and chronic stages of inflammation to increase tissue temperature and collagen extensibility, decrease joint stiffness, reduce muscle pain and spasm, to increase blood flow and produce some mild inflammatory reaction to facilitate a healing response. Continuous ultrasound is most commonly used for its deep heating effects — up to 5 cm in depth.

**Pulsed ultrasound** is generally used to facilitate cellular metabolism through its nonthermal effects. Pulsed ultrasound is most commonly produced by using a 20% duty cycle. Nonthermal effects of ultrasound include increased cellular permeability, increased rate of protein synthesis, increased release of histamine and chemotactic factor. It also effectively increases the rate of collagen synthesis and strength. Pulsed ultrasound is used to treat acute injuries and to facilitate soft tissue healing. It is also applied as an alternative treatment when deep heating of soft tissues is contraindicated.

Because ultrasound is the best heating method for depth greater than 2 cm, it can be used to increase joint range of motion, to treat heterotrophic scars and adhesions, to decrease pain of neuromas and increase blood flow. In addition, ultrasound is a good choice of modalities to treat soft tissue pathologies such as bursitis, tendinitis, joint contractures and pain following ligamentous sprains and muscle strains.

**Short-wave diathermy (SWD)** uses high frequency electromagnetic currents to induce deep tissue heating by vibration and distortion of the tissue molecules. It typically heats to a depth of 3–5 cm, but this depends on the wave frequency and the electric properties of the tissues. Most of the heat is dispersed superficially within the subcutaneous fat. Indications for diathermy are osteoarthritis, rheumatoid arthritis, bursitis, tendinitis, sprains, strains, neuritis, joint capsule and contractions and muscle guarding or spasms.



**The most widely used areas of application of diathermy**

UNIT 1

PHYSICAL REHABILITATION IN SPORTS TRAUMATISM

PROGRESS CHECK

I. One out of four words doesn't fit. Which one is it?

1. a) chief	b) poignant	c) main	d) cardinal
2. a) bleeding	b) running	c) squatting	d) leaping
3. a) to regain	b) to resume	c) to restore	d) to respond
4. a) inflammation	b) heat	c) balance	d) swelling
5. a) clot	b) rest	c) ice	d) compression
6. a) to release	b) to relax	c) to free	d) to discharge
7. a) because of	b) in order to	c) owing to	d) due to
8. a) treadmill	b) cycle ergometer	c) range of motion	d) balance board
9. a) resistance	b) trauma	c) damage	d) injury
10. a) to occur	b) to befall	c) to happen	d) to belong
11. a) piercing	b) primary	c) sharp	d) acute
12. a) breathing	b) strain	c) bruise	d) fracture
13. a) to consider	b) to deem	c) to regard	d) to immobilize
14. a) muscle	b) tendon	c) stiffness	d) ligament
15. a) endurance	b) manifestation	c) proprioception	d) flexibility

II. Which of the alternatives is correct in the following sentences?

- Small blood vessels are damaged, producing (a) *bleed*; b) *blood*; c) *bleeding*) within the tissue.
- Cryotherapy is the ( a) *treated*; b) *treatment*; c) *treats*) of an injury or a disease with cold.
- Three months before birth babies are already ( a) *respond*; b) *responsive*; c) *responsively*) to sound.
- Exercising helps the heart and the lungs ( a) *functions*; b) *to function*; c) *functional*) efficiently.
- The sports injuries treatment is intended (a) *to minimize*; b) *minimal*; c) *minimum*) the inflammatory phase of an injury.
- Tennis elbow is a form of ( a) *repeat*; b) *repetitive*; c) *repeated*) stress injury at the elbow.
- Nonthermal effects of ultrasound include increased cellular ( a) *permeate*; b) *permeable*; c) *permeability*).

**III. Match the words from the left column with those from the right one to make synonymous pairs:**

1. leaping	a) to aggravate
2. to provide	b) acute
3. sharp	c) jumping
4. to initiate	d) to raise
5. medicine	e) to postpone
6. to permeate	f) to supply
7. immediate	g) instant
8. to occur	h) to happen
9. to elevate	i) to begin
10. to respond	j) drug
	k) mild
	l) to penetrate
	m) to answer

**IV. Complete the sentences with the appropriate terms:**

- To injure a limb, muscle, or organ by overexerting means ...
- ... is referred to as a localized physical condition in which part of the body becomes reddened, swollen, hot and painful.
- R.I.C.E. means "rest, ice, ... and elevation".
- To penetrate or pervade a substance, area, etc. is synonymous to ...
- The chemical processes that occur within a living organism in order to maintain life is called ...
- ... exercises are those relating to muscular action with a constant rate or speed of movement.
- ... diseases are those which accompany the main illness or disease.

**V. Put the phrases/words in the correct order to make comprehensive sentences:**

- could be classified injuries traumatic Sports injuries or overuse as.  
\_\_\_\_\_
- lasts 5 days inflammatory typically The primary around stage.  
\_\_\_\_\_
- Cryotherapy with cold the treatment is or a disease of an injury.  
\_\_\_\_\_
- pathologies. is a good choice soft tissue Ultrasound to treat of modalities  
\_\_\_\_\_
- and muscular capacity. Endurance aerobic both increases anaerobic  
\_\_\_\_\_



**VI. Put one of the following linking words or phrases into each gap. There are 11 gaps, but 13 words.**

**a) as a result; b) above all; c) which; d) before; e) and; f) especially; g) if; h) although; i) however; j) that is why; k) such as; l) on the contrary; m) to**

Doing regular exercise can be dangerous,   1   if you are over 50.   2   it is a very good idea to see your doctor   3   starting if you think you are not very fit. Some people try to exercise too vigorously too soon, and   4   they cause themselves injuries.   5   can take a long time for rehabilitation.

  6  , it is not only older people who should take care. Doctors report many injuries   7   backaches, sprained ankles and pulled muscles, which can all be avoided   8   a little care is taken. If you do injure yourself, rest for a while   9   allow your body to recover naturally.   10  , don't push yourself because you think it is doing you good.   11  , you could do yourself permanent harm.

UNIT 2  
CEREBRAL PALSY

I. A. COMPREHENSION AND DISCUSSION

I. Learn the vocabulary to TEXT 1A "CEREBRAL PALSY". Pay special attention to synonymous expressions and paronymous (related) words.

cerebral palsy	['serəbr(ə)l 'pɑ:lzi]	дитячий церебральний параліч / корковий параліч
cause (n, v)	[kɔ:z]	(ім.) причина; (дієсл.) спричинитися, викликати
prevalence	['prevələns]	поширення / частота захворювання
strides of medical science		успіхи у галузі медицини
manifestation of the condition		прояви захворювання
abnormality / pathology / dysfunction / impairment		відхилення, патологія, дисфункція порушення,
to differ to differentiate different		відрізнити(ся), бути відмінним розрізняти, відрізняти різний, різноманітний, інший
harmful events		небезпечні, шкідливі випадки
to occur / to happen occurrence	[ə'kɜ:] [ə'kʌrəns]	траплятися, статися, відбуватися випадок
spina bifida	[,spainə 'bɪfɪdə]	грижа, кила
stroke		інсульт / параліч / удар
associated problems		супутні проблеми
cognitive processes		процеси пізнання
occasional seizures	['si:zə]	напади, що трапляються час від часу
behaviour (social, emotional)	[bi'heɪvjə]	поведінка (соціальна, емоційна)
to be affected		бути ураженим, порушеним
disabled / handicapped / impaired / invalid person		неповносправна особа, людина з особливими потребами
impairment / disability / handicap		вада, неповносправність
multiply handicapped person		особа з множинними ураженнями
maldevelopment	[,maldɪ'veləpmənt]	неправильний / аномальний розвиток
damage / lesion / injury / trauma	['li:z(ə)n]	ушкодження, травма
incurable	[ɪn'kjʊərəb(ə)l]	невиліковний
amenable to therapy	[ə'mi:nəb(ə)l]	такий, що підлягає лікуванню
extent of the lesion		ступінь ушкодження
to have a prenatal cause	[prɪ'neɪt(ə)l]	(тут) внаслідок внутрішньо- утробних порушень
rubella / three-day measles		краснуха
toxemia		токс(ин)емія
anoxia	[æn'ɒksɪə]	гіпоксія, киснева недостатність
encephalitis	[en'se'fə'laitɪs]	енцефаліт
meningitis	[,menɪn'dʒaɪtɪs]	менінгіт

*II. Read the following article using the pretext vocabulary.*

**TEXT 1A**

### **CEREBRAL PALSY**

Based on what we know today about the causes and prevalence of cerebral palsy, it would be safe to say that this condition has probably affected people for many centuries. The great strides of medical science over the XXth–XXIst centuries have been largely responsible for stimulating attention to and concern about those with cerebral palsy.

W. J. Little, an English orthopedic surgeon, is credited with being the first physician to document and analyze the condition of cerebral palsy. His published reports on sixty-three children, describing the manifestation of their condition, appeared in early 1860s, and the disorder became known as Little's disease. The term was changed to spastic paralysis in the 1930s and finally to cerebral palsy in the 1940s.

What cerebral palsy actually is? An answer to the question specifies that there is certain abnormality of motor function as a result of brain pathology. The role of brain dysfunction as the cause of abnormal motor function differentiates cerebral palsy from other motor problems caused by spinal lesions such as poliomyelitis, spina bifida and various paralyses associated with spinal cord injuries.

Definitions of cerebral palsy include the point that the brain dysfunction is the result of harmful events, which occurred before, during or soon after birth. This focus on time tells cerebral palsy from the motor problems caused by brain dysfunction associated with strokes or head injuries occurring later in life.

To describe the nature of cerebral palsy, the simple definition must be expanded to include the so called "associated problems". Because of the central role the brain plays in cognitive processes, in social and emotional behaviour, as well as in physical activities, impairments of intellectual functions, vision and hearing are often found in cerebral palsy. Occasional seizures and communication problems are common. Social and emotional development is affected. Severely involved individuals may have several of these problems. Hence, persons with cerebral palsy are usually multiply handicapped.

Finally a broader definition might be worded as follows: cerebral palsy is a multiply handicapping condition caused by brain abnormality resulting from maldevelopment or damage occurring before, during or shortly after birth and characterized by motor dysfunction and a variety of associated problems. This definition is essential for rehabilitation programmes planning because sometimes the associated problems might be more limiting and disturbing than the physical disability itself.

To date, cerebral palsy is incurable. However, the condition is amenable to therapy and training, so the motor functions of patients with this impairment can be improved. In addition, cerebral palsy is nonprogressive: that means the extent of the lesion will not increase, so the condition will not worsen or result in death.

Approximately 30 percent of all cerebral palsy cases have a prenatal cause and 10 percent a postnatal cause. Major causes of cerebral palsy before birth are maternal infection such as rubella (three-day measles), metabolic malfunctions, toxemia (toxic products in the blood) or anoxia (deficiency of oxygen). During the birth process cerebral palsy is usually caused by anoxia or trauma to the head. Postnatal occurrences are caused chiefly by severe head injuries or infections such as encephalitis (inflammation of the brain) or meningitis (inflammation of the cerebral cortex and spinal cord).

Of those affected, about 10 percent are so severely disabled that they will require intensive care for the rest of their lives. Other 90 percent can be found in various educational settings, ranging from regular schools to special educational establishments.

**III. Take part in the discussion. Express your opinion concerning the following statements. Decide if the following sentences are true, false, or impossible to answer basing on the previous reading:**

1. Physical rehabilitators should identify various treatments for cerebral palsy, including physical therapy and orthopedic surgery.



2. A major characteristic of cerebral palsy condition is that it interferes with the development of the central nervous system. The degree of this interference is related to the extent of the lesion and the age at which it occurs.
3. Severe head injuries or infections such as encephalitis or meningitis might cause postnatal occurrences of cerebral palsy.
4. Individuals with learning disabilities, speech problems, vision and hearing impairments, motor dysfunction not associated with intracranial pathology are usually classified as cerebral palsied.
5. Nearly none of cerebral palsied persons have speech defects or problems in communication that create barrier to social and academic adjustments.
6. Because of their motor inadequacies, communication problems, and, in some cases, differences in appearance, individuals with cerebral palsy often experience social rejection or excessive sympathy.
7. In addition to the obvious neuromuscular problems, many individuals with cerebral palsy have various secondary disorders.
8. Focus on time tells cerebral palsy from the motor problems caused by brain dysfunction associated with strokes or head injuries occurring later in life.
9. Major prenatal causes of cerebral palsy are maternal infection, metabolic malfunctions, toxemia or anoxia.
10. About 90 percent of cerebral palsied children attend various educational settings, ranging from regular schools to special educational establishments.

#### VOCABULARY CONSOLIDATION

**IV. Complete the sentences with the appropriate word combinations from the box:**

<i>a) motor dysfunction and associated problems</i>	<i>e) approximately 30 percent</i>
<i>b) more limiting and disturbing</i>	<i>f) shaking or trembling of the extremities</i>
<i>c) a multiply handicapping condition caused by brain pathology</i>	<i>g) the so called "associated problems"</i>
<i>d) intellectual functions, vision, hearing, communication</i>	<i>h) strokes or head injuries occurring later in life</i>

1. To describe the nature of cerebral palsy, the simple definition must be expanded to include \_\_\_\_\_.

2. \_\_\_\_\_ of all cerebral palsy cases have a prenatal cause.
3. Focus on time differs cerebral palsy from the motor problems caused by brain dysfunction associated with \_\_\_\_\_.
4. \_\_\_\_\_ are not characteristic of all persons with cerebral palsy.
5. Impairments of \_\_\_\_\_ are often found in cerebral palsy.
6. Sometimes the associated problems might be \_\_\_\_\_ than the physical disability itself.
7. Cerebral palsy is \_\_\_\_\_ resulting from damage occurring before, during or shortly after birth and characterized by \_\_\_\_\_.

**V. Match the words from both columns to form phrasal units. Some words may be used more than once. Make use of those units in the sentences of your own.**

brain	of the disease
motor	dysfunction
amenable	paralysis
multiply	inflammation
cognitive	to therapy
manifestation	medical science
emotional	handicapped
cerebral palsy	behaviour
strides of	processes
spastic	condition

**VI. Decide, which of the alternatives is correct in the following sentences:**

1. Cerebral palsy is often accompanied with the impairments of \_\_\_\_\_ (*digestion / breathing / speech*).
2. During child delivery cerebral palsy results mainly from \_\_\_\_\_ (*inflammation of the brain / trauma to the head / metabolic malfunctions*).
3. Physicians claim that cerebral palsy is \_\_\_\_\_ (*nonsubjected to treatment / nonprogressive / curable*).
4. Sometimes \_\_\_\_\_ (*cognitive processes / spina bifida / associated problems*) might be more limiting than the physical disability itself.
5. Postnatal cerebral palsy cases occur mainly as a result of \_\_\_\_\_ (*various infections / three-day measles / anoxia*).

6. An English orthopedic surgeon W. J. Little was the first to describe \_\_\_\_\_ (*brain dysfunction / manifestations / occasional seizures*) of cerebral palsied children.
7. Approximately 10 percent of cerebral palsied patients are \_\_\_\_\_ (*multiply handicapped / severely disabled / intellectually affected*).

## II. A. READING AND COMPREHENSION

VII. Review the vocabulary units before reading TEXT 2A. Read the text and do the activities that follow.

### TEXT 2A

#### TYPES OF CEREBRAL PALSY CONDITIONS

<p>There are five major types of cerebral palsy conditions:</p> <p>1) <i>spasticity</i>, 2) <i>athetosis</i>, 3) <i>ataxia</i>, 4) <i>rigidity</i>, and 5) <i>tremor</i>. Various combinations of these conditions can be found in many cases. Physical education instructors (rehabilitators) should know the manifestations of each condition so that they can better understand the effect each type has upon the movement capabilities of the individual with cerebral palsy.</p>	<p><i>spasticity</i> [spəˈstɪsɪtɪ] – спастичність м'язів  <i>athetosis</i> [ˌæθɪˈtəʊsɪs] – атетоз, атетойдний гіперкінез  <i>ataxia</i> [əˈtæksɪə] – атаксія  <i>rigidity</i> [rɪˈdʒɪdətɪ] – ригідність, залякність (викликана напруженням м'язів)  <i>tremor</i> ['tremər] – тремор, треміння</p>
<p><b>Spasticity</b></p> <p>Spasticity results from a lesion in the <i>motor cortex</i>. The motor cortex is the area in the central nervous system composed of motor neurons grouped together to form <i>tracts</i>. Spasticity is the most prevalent type of cerebral palsy, occurring in 50 to 60 percent of all cases. It is characterized by a persistent and increased hypertensity of muscle tone. The continuous hypertensity results in contractures (abnormal shortening) of the affected muscles, usually leading to <i>postural deviations</i>. In addition, the individual with spasticity tends to respond to the slightest stimulation, be it visual, verbal or tactile, with a muscular reaction.</p>	<p><i>motor cortex</i> – руховий центр кори головного мозку  <i>tracts</i> – нервові пучки  <i>postural deviations</i> – [pɒst(ə)rəl] – порушення постави</p>



<p>Another common characteristic of the individual with spasticity is a hyperactive stretch reflex. Any sudden stretch will result in a strong contraction. A frequent result of the hyperactive stretch reflex is a sudden contraction followed by <b>repeated jerks</b>. This reaction is known as clonus.</p> <p>Spasticity affects the <b>flexor muscle</b> groups, thus the maintenance of proper posture becomes very difficult. Mental impairment is more frequently associated with spasticity than with any other type of cerebral palsy.</p>	<p><b>repeated jerks</b> – [ri'pi:tɪd] [dʒɜ:k] – часті, повторювані різкі рухи <b>flexor muscle</b> – м'яз згинач</p>
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<p><b>Athetosis</b></p> <p>Athetosis is caused by a lesion in the area of the <b>basal ganglia</b>. This area is composed of large masses of neurons located deep within the centre of the <b>cerebrum</b>. It is this part of the brain that controls <b>purposeful conscious movements</b>.</p> <p>Athetosis, the second most prevalent type, is seen in approximately 30 percent of all individuals with cerebral palsy. The condition is characterized by constant involuntary movements that are uncontrollable, <b>unpredictable</b> and purposeless. In addition, the athetoid individual is <b>hampered</b> by a problem known as <b>overflow</b>. This is manifested by <b>extraneous movements</b> that accompany voluntary motion. The combination of overflow and involuntary movement produces a situation in which the body position is constantly in a state of change. Lack of head control is a major problem. In many cases the head is continually drawn back and the face turned to one side. <b>Facial contortions</b> are accompanied with a frequently open mouth. This produces <b>drooling</b> and makes eating and speaking very difficult.</p> <p>The amount of athetoid-type movements is reduced when the person is relaxed and calm and increased when the person is nervous and tense. Athetosis is not commonly characterized by mental retardation.</p>	<p><b>basal ganglia</b> – базальні ганглії <b>cerebrum</b> ['serɪbrəm] – головний мозок <b>purposeful conscious movements</b> – ціле-спрямовані свідомі рухи</p> <p><b>unpredictable</b> – непередбачуваний <b>hamper</b> – заважати, уповільнювати <b>overflow</b> – (тут) надмірна кількість рухів <b>extraneous movements</b> [ɪk'streɪniəs] – сторонні рухи</p> <p><b>facial contortions</b> – викривлення, спотворення обличчя <b>drooling</b> – неконтрольоване слиновиділення</p>
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### **Ataxia**

A third type of cerebral palsy, ataxia, is the result of a lesion in the *cerebellum*, the area located below the cerebrum and *posterior* to the *brain stem*. The cerebellum acts as the feedback mechanism of the brain and organizes the information to coordinate muscular functions.

The major manifestations of ataxia are a reduced sense of balance, which results in frequent falls and a reduced sense of *kinesthesia*, which produces uncoordinated movements. Ataxia is accompanied by general loss of *manual dexterity*. The person with ataxia usually exhibits a very *awkward gait*.

Although this is the third-most common type of cerebral palsy, ataxia accounts for less than 10 percent of the cases. The condition is usually *acquired* rather than *congenital*.

*cerebellum* [seri'beləm] -  
мозочок  
*posterior* - [pə'stəriə]  
задній  
*brain stem* - стовбур  
мозку

*kinesthesia* - [kɪnts'θi:zɪs]  
кінестезія, м'язові  
відчуття  
*manual dexterity* - рухова  
спритність руки  
*awkward gait* - ['ɔ:kwəd  
geɪt] - незграбна хода  
*acquired* - [ə'kwɪəd]  
набутий  
*congenital* - [kɒndʒ'entɪəl]  
вроджений

### **Rigidity**

Rigidity is the most *severe type* of cerebral palsy, accounting for 2 to 5 percent of cases. It is characterized by hypertensity of both agonist and antagonist muscles, making movement very difficult. Because of the *relative absence of the stretch reflex*, hyperextension of body parts is common.

The muscles of the affected limbs usually atrophy, and postural defects are present. Rigidity is a result of a *diffused brain lesion* that affects both the motor cortex and the basal ganglia. Severe *mental retardation* is usually present.

*severe type* - важкий,  
тяжкий, серйозний

*relative absence of the  
stretch reflex* - (тут)  
помітна відсутність  
рефлексу розтягнення

*diffused brain lesion* -  
множинні ураження  
мозку  
*mental retardation* -  
затримка розумового  
розвитку, олигофренія

### **Tremor**

Of the five major types of cerebral palsy tremor occurs *least frequently*. It results in uncontrolled, involuntary, rhythmic motions. This condition can be caused by a lesion of the cerebellum or basal ganglia. The *cranial and digital muscles* are the most affected.

*least frequently* -  
найменш часто  
*cranial muscles* -  
['kreɪntəl] - м'язи черепа  
*digital muscles* - ['dɪdʒɪtl]  
м'язи пальців

## VOCABULARY CONSOLIDATION

### VIII. Match the following terms with their definitions:

1. clonus	a) performed or acting without conscious control
2. congenital	b) the loss of full control of bodily movements
3. gait	c) an action that is performed as a response to a stimulus and without conscious thought
4. ataxia	d) a condition which prevents person's eyes, ears, or brain from working properly.
5. involuntary	e) a region in an organ or tissue that has suffered damage through injury or disease
6. lesion	f) a person's manner of walking
7. impairment	g) muscular spasm involving repeated, often rhythmic, contractions
8. reflex	h) disease or medical condition a person has had from birth, but is not inherited.

### IX. Choose the most appropriate word or word combination, which best corresponds to the sentence content:

- The amount of athetoid-type movements is increased when the person is ...
  - nervous and tense
  - mentally retard
  - relaxed and calm
  - lacking oxygen
- Rigidity is ... type of cerebral palsy.
  - the most prevalent
  - second most prevalent
  - the least frequent
  - the most severe
- The cerebellum organizes the information to coordinate ...
  - metabolic processes
  - stretch reflexes
  - muscular functions
  - sleep and relaxation
- Mental impairment is more frequently associated with ... than with any other type of cerebral palsy.
  - spasticity
  - atbetosis
  - tremor
  - ataxia

5. Rigidity is characterized by ...
- lack of head control
  - hypertensity of both agonist and antagonist muscles
  - acquired rather than congenital malfunctions
  - a very awkward gait and manual dexterity

## II. B. READING AND COMPREHENSION

**X. Review the vocabulary units before reading the text. Read Text 2B and do the activities that follow.**

### Text 2B

<i>in a generic sense</i> – загалом, узагальнюючи	<i>carry-over leisure activities</i> – ігри з перенесенням предметів
<i>staining</i> – підтримка	<i>facilitate postural responses</i> – сприяти виробленню реакції на підтримку постави
<i>challenging</i> – складний, проблемний	<i>buoyancy of water</i> – здатність води підтримувати на поверхні

Without question, physical therapy (rehabilitation) is the primary source of movement education for an individual with cerebral palsy. There are many different theories and methods, which in a generic sense can be divided into those methods developed to treat spasticity and those developed to treat athetosis. Physical therapists recognize that sustaining the interest of a child with cerebral palsy in therapy can be very challenging. Carry-over leisure activities are an important aspect of the majority of rehabilitation programmes for children with cerebral palsy. Community activities that the child can engage in should be taught. Examples of activities that have been successively taught to these children include bowling, table tennis, horseback riding and swimming. In attempt to address this need, various therapeutic methods and approaches has been developed, including the use of horseback riding. In this approach the horse is used as balls and other equipment found in pediatric rehabilitation clinics. The goal is to facilitate particular postural responses by placing the rider (cerebral palsy case) in various positions on the horse such as prone, side lying, side sitting or sitting. The horse is usually led at a walking pace by a therapist, who is a skilled rider. Swimming is an excellent activity. The buoyancy of water allows children with cerebral palsy to have a freedom of movement that they cannot

have out of water. The water also provides a superb environment for an individual to practice walking. Special techniques for the teaching of swimming skills to children with cerebral palsy should be thoroughly developed for every case. Physical rehabilitators must direct their efforts towards teaching motor skills essential to successful participation in sports, games and play activities.

**XI. Choose the most appropriate heading to the text, which corresponds to its content the best:**

- On Some Methods of Movement Rehabilitation of Individuals with Cerebral Palsy.
- Methods of Intellectual, Social and Physical Development of Children with Cerebral Palsy.
- Medical Approaches to Cerebral Palsy Treatment.

**XII. Divide the text into comprehensive parts / paragraphs. Suggest some 4–6 key words, which reflect its content.**

### III. A. LISTENING AND DISCUSSION:

**XIII. Listen to / read the recommendations on how the rehabilitation programme for palsied children could be planned. Before listening/reading be sure to identify any unknown words.**

<i>to enhance</i> – сприяти, розвивати	<i>peer</i> – одноліток
<i>to place the emphasis</i> – надати особливого значення	<i>scheduling and placement</i> – розклад та місце проведення
<i>rearranging blocks</i> – переміщення кубиків	<i>to recognize</i> – (тут) розпізнавати

### PLANNING THE REHABILITATION PROGRAMME

The programme for persons with cerebral palsy should be governed by two primary objectives:

- to enhance physical development and muscular control;
- to assist psychosocial development.



The primary needs of each person will determine where the emphasis should be placed. Through consultations with the physician, teachers and parents physical therapist can discover which skills need additional work. For example, if there is a need to develop some skill in manual manipulation, activities such as placing objects in a container, rearranging blocks, and striking with a racket can be offered.

As with all other programmes, the scope of the cerebral palsy rehabilitation programme to a large extent depends on the facilities and equipment available. When possible, special equipment should be purchased. Many times special equipment can be constructed by the teachers or rehabilitators themselves.

Two additional aspects that must be considered in planning the programme are scheduling and placement. Whenever possible, children with cerebral palsy should be integrated with their peers.

Individuals with cerebral palsy can learn, and it is the responsibility of physicians, physical therapists, physical education teachers and parents to recognize their motor potentials and to develop these abilities through physical training.

**XIV. Listen to the information again to answer the bulleted questions. Make use of the following expressions sharing your opinion on the information you've listened to with your group mates:**

*the information we've listened to is about* – у прослуханій інформації йдеться про  
*the purpose (aim / object / goal) of the report is to describe* – мета повідомлення – описати ...

*the report deals with* – у повідомленні йдеться про ...

*the report goes to the problem of* – інформація торкається проблеми...

*it is evident that* – очевидно, що ...

*it is interesting to note that* – цікаво зауважити, що ...

*to the best of my knowledge* – наскільки мені відомо...

*I, for one, consider that* – я, наприклад, вважаю, що ...

*in my opinion / to my mind* – на мою думку...

- Why do you think there should be special rehabilitation programme planning for cerebral palsied persons?
- What is, in your opinion, the alternative to the lack of special facilities and equipment for palsied students, when the school budgets are restricted?

- Who do you think has the greatest responsibility for the development of physical, intellectual, social skills of individuals with cerebral palsy?
- Do you consider that a cerebral palsied child should be given a possibility to integrate with his peers or placement in a special class is more advisable?

#### IV. A. READING AND WRITING

**XV. Read and translate the article on Cerebral Palsy Rehabilitation making use of any of the on-line dictionaries like ABBYY Lingvo x3, ABBYY Lingvo x5, dictionary.reference.com or Merriam-webster.com. Provide comprehensive written comments on the following issues:**

- *Cerebral palsy is the major cause of children's disability affecting their motor functions, mental development and social behaviour;*
- *Physical therapy is the primary source of movement education for an individual with cerebral palsy;*
- *Postural and motor control training as well as muscle strengthening modalities is extremely important in palsied children rehabilitation.*
- *Major modern approaches to cerebral palsy rehabilitation measures.*

#### CEREBRAL PALSY REHABILITATION

Treatment associated with cerebral palsy is aimed at improving infant-caregiver interaction, giving family support, supplying resources, and providing parental education, as well as promoting motor and developmental skills. The parent or caregiver should be taught the exercises or activities that are necessary to help the child reach his or her full potential and improve motor functions.

Cerebral palsy is often a principal cause of childhood disability affecting function and development. This disorder affects the development of movement and posture that is believed to arise from nonprogressive disturbances in the developing fetal or infant brain. In addition to the motor disorders that characterize cerebral palsy, which limit a patient's activities, individuals with cerebral palsy often display epilepsy, secondary musculoskeletal problems and disturbances of sensation, perception, cognition, communication and behavior.

A rehabilitation specialist solves an important task of rendering comprehensive care to these often very involved patients, as well as helping with many aspects of

care, including those related to spasticity management, therapies, modalities, bracing, sialorrhea (*гіперсаливація*) and insomnia.

Children with cerebral palsy who require intensive physical, occupational, and/or speech therapy may need to be admitted for rehabilitation. These patients receive therapy in at least 2 disciplines for 3 hours daily. Rehabilitation may be especially useful after orthopedic surgery.

Daily range-of-motion (ROM) exercises are important to prevent or delay contractures that are secondary to spasticity and to maintain the mobility of joints and soft tissues. Stretching exercises are performed to increase motion. Progressive resistance exercises should be taught in order to increase strength. The use of age-appropriate play and of adaptive toys and games based on the desired exercises are important to elicit the child's full cooperation. Strengthening knee extensor muscles helps to improve crouching and stride length. Postural and motor control training is important and should follow the developmental sequence of normal children (that is, head and neck control should be achieved, if possible, before advancing to trunk control).

Patients and their parents often apply hippo therapy (horseback-riding therapy) to help improve the child's tone, ROM, strength, coordination, and balance. Hippo therapy offers many potential cognitive, physical, and emotional benefits.

The use of Kinesio Taping (*kinesio tape — пружна терапевтична стрічка*) can help in reeducating muscles for stretching and strengthening, and aquatic therapy can also be beneficial for strengthening, as can electrical stimulation. Short-term use of heat and cold over the tendon may help to decrease spasticity; vibration over the tendon also reduces spasticity. However, these treatments only decrease spasticity briefly and should be used in conjunction with ROM and stretching exercises.

The child's developmental age should always be kept in mind, and adaptive equipment should be used as needed to help the child achieve his or her milestones. For example, if a child is developmentally ready to stand and explore the environment but is limited by a lack of motor control, the use of a stander should be encouraged to facilitate the achievement of the youngster's needs. Performance should be encouraged at a level of success to maintain the child's interest and cooperation, and assistive devices and permanent medical equipment should be ordered to attain functions that may not otherwise be possible.

Occupational therapy for children with cerebral palsy should focus on activities of daily living, such as feeding, dressing, toileting, and grooming. The goal should be for the child to function as independently as possible with or without the use of adaptive equipment.



**UNIT 2**  
**CEREBRAL PALSY**

**PROGRESS CHECK**

**I. Match the words from the right column (1., 2., 3. ...) with their definitions (a), b), c) ...):**

1. harmful change in any part of the body caused by injury or disease	<b>a)</b> hearing
2. power to float or keep things floating (usually on water)	<b>b)</b> lesion
3. different from what is normal, ordinary or expected	<b>c)</b> extremities
4. nerve-fibers in the spine	<b>d)</b> abnormal
5. loss or impairment of motor function due to a lesion in the neural or the muscle mechanism	<b>e)</b> posture
6. hands and feet	<b>f)</b> buoyancy
7. manners, treatment shown towards others	<b>g)</b> behaviour
8. power of seeing or imagining	<b>h)</b> vision
9. perception by sound	<b>i)</b> spinal cord
10. position of the body	<b>j)</b> paralysis

**II. One out of four words doesn't fit. Which one is it?**

1. **a)** abnormality; **b)** conditioning; **c)** pathology; **d)** dysfunction;
2. **a)** difficult; **b)** not the same; **c)** various; **d)** different;
3. **a)** vision; **b)** hearing; **c)** smell; **d)** sound;
4. **a)** lesion; **b)** leisure; **c)** trauma; **d)** damage;
5. **a)** affected; **b)** accurate; **c)** precise; **d)** exact;
6. **a)** handicapped; **b)** dislocated; **c)** disabled; **d)** impaired;
7. **a)** to occur; **b)** to happen; **c)** to disturb; **d)** to exist;
8. **a)** inadequate; **b)** insufficient; **c)** improbable; **d)** not enough;
9. **a)** to affect; **b)** to influence; **c)** to increase; **d)** to attack;
10. **a)** sitting; **b)** prone; **c)** jumping; **d)** side lying.



**III. Match the beginnings with the endings:**

1. Cerebral palsy rehabilitation programme depends to a large extent on ...
  2. Focus on birth time differs cerebral palsy from the motor problems caused by ...
  3. The role of brain dysfunction as the cause of abnormal motor function differentiates cerebral palsy from ...
  4. Physical therapy (rehabilitation) is the primary source of ...
  5. Through consultations with the physician, teachers and parents physical therapist...
  6. The buoyancy of water allows children with cerebral palsy ...
  7. Cerebral palsy is a multiply handicapping condition caused by brain abnormality resulting from maldevelopment or damage ...
- a) ... the facilities and equipment available.
- b) ... brain dysfunction associated with strokes or head injuries occurring later in life.
- c) ... other motor problems caused by spinal lesions.
- d) ... movement education for an individual with cerebral palsy.
- e) ... can discover which skills need additional work.
- f) ... to have a freedom of movement that they cannot have out of water.
- g) ... occurring before, during or shortly after birth and characterized by motor dysfunction and a variety of associated problems.

**IV. Put the phrases/words in the correct order to make comprehensive sentences:**

1. cerebral palsy.    severe    is    Rigidity    type of    the most  
\_\_\_\_\_
2. with    integrated    should be    cerebral palsy    with their peers.    Children  
\_\_\_\_\_
3. after    especially    Rehabilitation    useful    orthopedic surgery.    may be  
\_\_\_\_\_
4. a reduced    is    of ataxia    sense of    One of the major    balance.    manifestations  
\_\_\_\_\_
5. exercises    of motion.    to increase    Stretching    are performed    the range  
\_\_\_\_\_

V. Complete the text filling the gaps with the words from the box. Notice that there are 15 words but 12 gaps.

a) caused	b) cranial	c) cerebral	d) only	e) such as
f) per cent	g) and	h) covering	i) during	j) infections
k) dysfunction	l) toxic	m) oxygen	n) occurrences	o) cause

Cerebral palsy may be incurred before,  1  or shortly after birth. Approximately 30  2  of all cerebral palsy cases have a prenatal  3 , while 60 per cent have a natal cause  4  10 per cent a postnatal cause. Major causes of  5  palsy before birth are maternal infection  6  rubella (*κρσχυχα*) or three-day measles (*κιρ*), metabolic malfunctions, toxemia ( 7  products in the blood), or anoxia (deficiency of  8 ). During the birth process cerebral palsy is usually  9  by anoxia or trauma to the head. Postnatal  10  are caused chiefly by severe head injuries or  11  such as encephalitis (inflammation of the brain) or meningitis (inflammation of the  12  of the brain and spinal cord).

**UNIT 3**  
**PHYSICAL THERAPY IN PAEDIATRICS**

**1. A. COMPREHENSION AND DISCUSSION**

*I. Learn the vocabulary to TEXT 1A "GOALS OF PAEDIATRIC PHYSICAL THERAPY". Pay special attention to terminological and synonymous expressions.*

specialty area		галузь, сфера професійної діяльності
infant = kid = baby = toddler	['ɪnfənt]	немовля, дитина (до 7 років)
adolescent	[ædə'les(ə)nt]	підліток (11–18 років)
endurance	[m'dju(ə)rəns]	витривалість
accomplish = to execute = to fulfil = to perform	[ə'kɒmplɪʃ]	здійснювати, виконувати
gross and fine motor skills	[m'djuərəns]	грубі та тонкі рухові навички
cognitive functions	['kɒgnɪtv]	когнітивні/пізнавальні функції
sensory processing and integration	['præsəsɪŋ]	аналіз та синтез сенсорної інформації
to promote = to enhance = to give incentive	[ɪn'hɑ:ns]	підтримувати, сприяти, стимулювати
to ease = to alleviate = to relieve	[i:z] [ə'li:vɪə]	полегшувати
care giving		догляд, піклування, лікування
be concerned with		займатися чимось, приділяти увагу
crawling	['krɔ:liŋ]	повзання
mobility aids / assistive devices		допоміжні пристрої, механізми, що полегшують пересування
orthotics	[ɔ:'θɒtɪks]	протезування, ортопедичні апарати
to navigate safely = to get around / to move		надійно, безпечно пересуватися
environment	[ɪn'vaɪərənmənt]	середовище, оточення
pre-gait and gait training		навчання ходінню і вироблення ходи
locomotion patterns		зразки, моделі, способи пересування
body alignment	[ə'laɪnmənt]	анатомічна відповідність, виправлення
splinting		шинування
bracing		імобілізація
to incorporate = to involve = to embrace = to include		залучати, об'єднувати, включати (до чогось)
developmental psychoiogy		вікова психологія

*II. Read TEXT 1A in order to complete the aftertext assignments.*

**TEXT 1A**

**GOALS OF PEDIATRIC PHYSICAL THERAPY**

1. Nowadays paediatrics is a large specialty area in physical therapy. Therapists who specialize in paediatric physical therapy are trained to diagnose, treat and manage a variety of developmental, neuromuscular, skeletal, congenital and acquired diseases and disorders in infants, children and adolescents. They focus on improving the

child's strength, endurance, balance and coordination, gross and fine motor skills, as well as their cognitive functions and sensory processing and integration.

2. Paediatric physical therapy promotes a child's independence, increases their motor development and function, improves their strength, enhances their learning opportunities and eases care giving for family members. Physical therapists specializing in paediatrics assist children in developing and enhancing mobility so they can safely participate in activities at home, in the community, at the classroom and on the playground.

3. Physical therapists assist in developing children's ability to take part in important movement activities such as crawling and walking, running, playing games, participating in sports and in other important physical interactions. In addition, therapists show children who depend on mobility aids (such as wheelchairs, orthotics and other assistive devices) how to navigate safely in various environments.

4. As a rule physical therapists examine patients, accomplish various physio-therapeutic procedures and give advice on the following areas:

- Gross and fine motor functions
- Muscle tone and strength
- Posture/postural control
- Pre-gait and gait training
- Locomotion patterns
- Neuromuscular function
- Endurance
- Body alignment
- Environmental adaptations
- Wheelchair positioning and mobility
- Splinting / bracing / orthotics

5. Physical therapists often incorporate various modes of manual therapy including stretching, massage, mobilization, strengthening and endurance training to enhance the child's capabilities and prevent deformities and contractures. Paediatric physical therapists support children who range in age from infancy to adolescence, collaborating with their family members as well as educational, medical, and developmental psychology specialists.



### VOCABULARY CONSOLIDATION

**III. Read Text 1A again to find the words whose definitions are given below. The number of the paragraph where each appropriate word can be found is given in brackets.**

1. \_\_\_\_\_ the branch of medicine that deals with the provision and use of orthopaedic artificial devices ( 3 )
2. \_\_\_\_\_ young person in the process of developing from a child into an adult ( 1 )
3. \_\_\_\_\_ a person's manner of walking ( 4 )
4. \_\_\_\_\_ a disease or physical abnormality present from birth ( 1 )
5. \_\_\_\_\_ the ability to use different parts of the body together smoothly and efficiently ( 1 )
6. \_\_\_\_\_ characteristic way in which someone holds his/her body when standing or sitting ( 4 )
7. \_\_\_\_\_ to improve, to intensify in quality, value, power, etc. ( 2, 5 )
8. \_\_\_\_\_ a situation in which it is possible for you to do something that you want to do ( 2 )
9. \_\_\_\_\_ inspect someone thoroughly in order to determine his/her condition ( 4 )
10. \_\_\_\_\_ to direct oneself, to move carefully or safely ( 3 )
11. \_\_\_\_\_ to give help or support to a person ( 2 )
12. \_\_\_\_\_ an illness that disrupts normal physical or mental functions ( 1 )
13. \_\_\_\_\_ movement or the ability to move from one place to another ( 4 )
14. \_\_\_\_\_ abnormality or impairment in the operation of a specified bodily organ or system ( 1 )
15. \_\_\_\_\_ a condition of shortening and hardening of muscles, tendons, or other tissue, often leading to deformity and rigidity of joints ( 5 )

**IV. Complete the sentences with the relevant word combinations from the box.**

a) environmental adaptations	f) who depend on mobility aids
b) cognitive functions	g) congenital and acquired diseases and disorders
c) from infancy to adolescence	h) stretching, massage, mobilization
d) they can safely participate	i) developmental psychology specialists
e) participating in sports	j) physiotherapeutic procedures

1. Pediatric physical therapists support children who range in age \_\_\_\_\_.
2. Physical therapists assist children in enhancing mobility so \_\_\_\_\_ in activities at home, at the classroom and on the playground.
3. Physical therapists often give advice on \_\_\_\_\_.
4. Therapists show children \_\_\_\_\_ how to navigate safely in various environments.
5. Pediatric physical therapists focus on improving the child's \_\_\_\_\_ and sensory processing and integration.
6. Physical therapists examine patients and accomplish various \_\_\_\_\_.
7. Therapists who specialize in pediatric physical therapy are trained to diagnose, treat and manage a variety of \_\_\_\_\_ in infants, children and adolescents.
8. Physical therapists often incorporate various modes of manual therapy including \_\_\_\_\_, strengthening and endurance training.
9. Physical therapists assist in developing children's ability to take part in important movement activities such as playing games, \_\_\_\_\_ and in other physical interactions.
10. Pediatric physical therapists support children who range in age from infancy to adolescence, collaborating with their family members and \_\_\_\_\_.

**V. Fill in the table with the missing parts of the speech and give Ukrainian translation to each of them. A few spaces might be left blank:**

Noun	Verb	Adjective	Adverb
		supportive	
interaction			
	strengthen		
			increasingly
safety			
		developmental	
			attentively
	improve		

**VI. Complete the sentences with the suitable parts of the speech from the previous task:**

1. These two chemicals \_\_\_\_\_ with each other at a certain temperature to produce a substance which could cause an explosion.
2. The treatment designed to improve or sustain a patient's physiological well-being is call a \_\_\_\_\_ therapy.
3. Unfortunately there has been a significant \_\_\_\_\_ in the number of young people who smoke.
4. The doctor \_\_\_\_\_ recommended the patient with heart trouble to drop smoking.
5. We have noticed a number of \_\_\_\_\_ in the city since we were here six years ago.
6. Spending money \_\_\_\_\_ and wisely does not mean being stingy and greedy.
7. The physician \_\_\_\_\_ the dosage from one to four pills.
8. Besides offering therapeutic services to people of various ages and occupations physical therapists are concerned with industrial \_\_\_\_\_.
9. The doctor examined the patient \_\_\_\_\_ before making out a diagnosis.
10. The faculties of the mind generally are \_\_\_\_\_ by exercise.

**VII. Take part in a discussion. Express your opinion concerning the statements given below.**

- ***Specific nature of paediatric physical rehabilitation***
- ***Basic motor patterns and skills arousing concern of paediatric physical therapists***
- ***Rehabilitation approaches, modalities and measures applied in paediatric physical therapy***

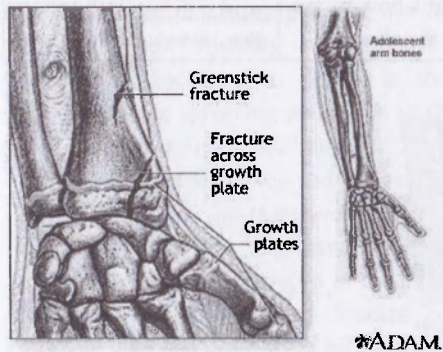
## II. A. READING AND COMPREHENSION

VIII. Review the vocabulary units while reading each item of TEXT 2A "COMMON PEDIATRIC DISEASES AND CONDITIONS". Read the text and complete the after-text assignments:

### TEXT 2A

<p>Common diseases and conditions that affect children are as follows:</p> <ul style="list-style-type: none"> <li>• Salter-Harris Fracture</li> <li>• Types of Spina Bifida</li> <li>• Scoliosis</li> <li>• Torticollis</li> <li>• Osgood-Schlatter</li> <li>• Developmental Milestones</li> <li>• Cerebral Palsy</li> <li>• Autism</li> </ul>	<p><b>Salter-Harris fracture</b> – перелом Салтера-Харріса / епіфізеоліз  <b>spina bifida</b> – розщеплення хребта  <b>scoliosis</b> – сколіоз  <b>torticollis</b> [ˌtɔːtɪˈkɒlɪs] – кривошия  <b>Osgood-Schlatter</b> – хвороба Осгуда-Шлаттера (остеохондропатія горбистості великої гомілкової кістки)  <b>developmental milestones</b> – періоди / віхи розвитку дитини  <b>cerebral palsy</b> [ˈserəbr(ə)l ˈpɔːlzi] – дитячий церебральний параліч (ДЦП)  <b>autism</b> [ˈɔːtɪz(ə)m] – аутизм</p>
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### Salter-Harris Fracture / Growth plate fracture in Children



**Salter-Harris fracture** is a fracture that involves the **epiphyseal plate** or **growth plate** of a bone. This common injury occurring to children amounts to some 15% of long bone fractures. Salter-Harris fracture is a break that might happen around, across, or along the bone (see the picture above). This may usually cause functional limitations during walking and running (knee or ankle fracture), or **reaching** and lifting (upper extremity fracture).

**epiphyseal plate** – епіфізарний хрящ, епіфізарна пластинка  
**growth plate** – пластинка росту / зона росту кістки

**reaching** – спроможність дотягнутися, ухопити (предмет)



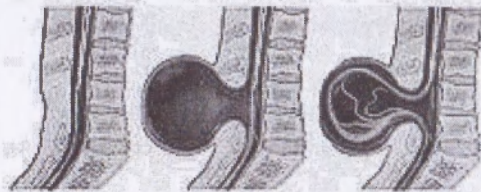
About every third growth plate fracture occurs at the playgrounds during sports activities. Frequently these fractures might happen as a result of a **repetitive trauma** and are classified as **stress fractures**. Salter-Harris fracture is **dangerous** because it may limit normal growth of the injured bone, leading to a deformity or **shortening** of one of the extremities in the child's growing body.

**repetitive trauma** – повторна травма  
**stress fracture** – утомний перелом  
**shortening** – укорочення

Salter-Harris fracture diagnostics is usually **accomplished** by means of **X-raying**. Occasionally a **diagnostic imaging**, like a **CT scan** or **MRI**, is necessary to diagnose the growth plate fracture. Once the diagnosis is **confirmed**, the fracture will need to be **reduced**. In the cases of severe fractures **pinning** may be necessary or a surgical intervention may be required. After bone **reduction** and plaster cast immobilization the child has to use **crutches** or a walker to ambulate. And then a physical therapist comes to rescue and learns how to use assistive devices or how to properly adjust the **slings**.

**to accomplish** – здійснювати  
**X-raying** – рентгенограма  
**diagnostic imaging** – діагностична візуалізація  
**CT scan (computerized tomography scan)** – діагностика методом комп'ютерної томографії  
**MRI (magnetic resonance imaging)** – магнітно-резонансна томографія  
**reduce** – вправляти  
**pinning** – скріплення штифтом, голкою  
**crutches** – милиці  
**slings** – підтримуюча пов'язка

### Spina Bifida



*spina bifida occulta    meningocele    myelomeningocele*

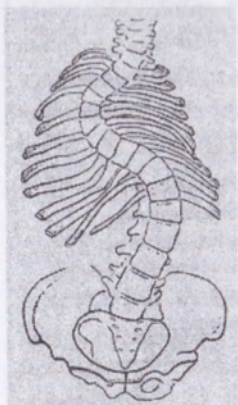
**Spina bifida** (Latin: "split spine") is a **congenital disorder** caused by the **incomplete closing** of the **embryonic neural tube**. It occurs in the first month of pregnancy and refers to neural tube defects. Some **vertebrae overlying the spinal cord** are not fully formed and remain **unfused** and open. This allows a portion of the spinal cord **to protrude** through the opening in the bones. There may or may not be a fluid-filled sac surrounding the **spinal cord**.

**congenital disorder** – вроджене захворювання  
**incomplete closing** – неповне зімкнення  
**embryonic neural tube** – ембріональна нервова трубка  
**vertebrae overlying the spinal cord** – хребці, що закривають спинний мозок  
**unfused** – незрощений  
**to protrude** – стирчати, висуватися

<p>Spina bifida <b>malformations</b> fall into three categories: <b>spina bifida occulta</b>, <b>spina bifida cystica with meningocele</b>, and <b>spina bifida cystica with myelomeningocele</b>. The most common location of the malformations is the <b>lumbar</b> and sacral areas.</p> <p><b>Occulta</b> is Latin for "hidden". This is <b>the mildest form</b> of spina bifida. In occulta, the outer part of some of the vertebrae is not completely closed. The <b>splits</b> in the vertebrae are so small that the spinal cord does not protrude. The incidence of spina bifida occulta is approximately 10-20% of the population. This form is rather common and only rarely causes neurological symptoms.</p>	<p><b>malformation</b> – вроджений порок, мальформація</p> <p><b>spina bifida occulta</b> – скрита кила</p> <p><b>spina bifida cystica with meningocele</b> [mə'niŋgə'sil] – кистозна черепно-мозкова кила</p> <p><b>spina bifida cystica with myelomeningocele</b> – [maɪələmə'niŋgə'sil] – кистозна спинномозкова кила</p> <p><b>the mildest form</b> – найбільш легка форма</p> <p><b>split</b> – щілина, розрив</p>
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<p>Spina bifida meningocele and myelomeningocele are among the most <b>common</b> birth defects, with a worldwide incidence of about 1 in every 1000 births. Meningocele is less <b>severe</b> and is characterized by <b>herniation of the meninges</b>, but not the spinal cord, through the opening in the spinal canal. Myelomeningocele often results in the most severe <b>complications</b>, involving herniation of the meninges as well as the spinal cord through the opening. The <b>exposure</b> of these nerves and tissues <b>makes the baby more prone to life-threatening infections</b> such as <b>meningitis</b>. Children may have <b>ambulation problems</b>, <b>loss of sensation</b>, deformities of the hips, knees or feet, and loss of muscle tone. Studies conducted with mothers who had prior spina bifida births indicates that the <b>incidence</b> of spina bifida can be decreased by up to 75% when the mother takes daily <b>folic acid prior to conception</b>.</p>	<p><b>Severe</b> – тяжкий, загрозливий</p> <p><b>herniation of the meninges</b> [mɪ'nɪndʒi:z] – килотворення з м'яких мозкових оболонок</p> <p><b>complications</b> – ускладнення</p> <p><b>exposure</b>[ɪk'spəʊʒə] – оголення</p> <p><b>to make the baby prone to</b> – робити дитину більш уразливою</p> <p><b>life-threatening infections</b> – інфекції, що становлять загрозу життю</p> <p><b>meningitis</b> [ˌmenɪn'dʒaɪtɪs] – менінгіт</p> <p><b>loss of sensation</b> – втрата відчуттів</p> <p><b>ambulation problems</b> – проблеми з пересуванням</p> <p><b>folic acid</b> – фолієва кислота, вітамін В6</p> <p><b>prior to conception</b> – перед вагітністю</p>
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## Scoliosis



*Illustration of a severe case of scoliosis.*

Scoliosis is a **sideways curvature of the spine** that occurs most often during the **growth spurt** just before **puberty**. While scoliosis can be caused by conditions such as cerebral palsy and muscular dystrophy, the cause of most scoliosis is unknown.

Most cases of scoliosis are mild, but some children develop spine deformities that continue **to get more severe** as they grow. **Severe scoliosis** can be **disabling**.

An especially severe spinal curve can **reduce** the amount of space within the chest, making it difficult for the lungs and heart to function properly.

**sideways curvature of the spine** – викривлення хребта у боковій площині  
**growth spurt** – стрімкий стрибок у розвитку  
**puberty** – пубертатний період, статева зрілість  
**to get more severe** – (тут) погіршуватися  
**severe scoliosis** – тяжкі випадки сколіозу  
**disabling** – такий, що призводить до неповносправності

Children who have mild scoliosis **are monitored closely**, usually with X-rays, to see if the curve is getting worse. In many cases, no treatment is necessary. Some children will need **to wear a brace** to stop the curve from worsening. Others may need surgery to keep the scoliosis from worsening and to straighten severe cases of scoliosis. Physical therapy procedures are strongly recommended for scoliosis cases.

**to be monitored closely** – перебувати під постійним контролем  
**to wear a brace** – носити корсет, фіксуючий пристрій



## Torticollis

Congenital muscular torticollis, also called twisted neck or wryneck, is a condition in which an infant holds his or her head **tilted to one side** and has difficulty turning the head. That occurs because the muscle that extends down the side of the neck — the **sternocleidomastoid muscle** — is **tight** and shortened.

Torticollis is present at birth or develops soon after. It is usually discovered in the first 6 to 8 weeks of life, when a new-born begins **to gain more control** over the head and neck. Some babies with congenital torticollis also have developmental **dysplasia of the hip**, a condition in which the **head of the thighbone** is not held **firmly** in the **hip socket**.

**tilted to one side** – схилений на один бік  
**sternocleidomastoid muscle** – груднично-ключично-соскоподібний м'яз  
**tight** – напружений  
**to gain control** – (тут) вміти контролювати рухи  
**dysplasia of the hip** – дисплазія кульшового суглобу (вроджений вивих стегна)  
**head of the thighbone** – голівка стегна  
**hip socket** – кульшова западина

### Symptoms:

- The head **tilts** to one side and the chin **points to** the opposite shoulder. In 75% of babies with torticollis, the right side of the neck is affected.
- Limited range of motion in the neck makes it difficult for the baby to turn the head side to side, and up and down.
- During the baby's first few weeks, a **soft lump** may be felt in the affected neck muscle. This lump is not painful and gradually disappears.
- One side of the face and head may **flatten** because the child always sleeps on one side.

**points to** – повернений у напрямку до ...

**soft lump** – м'яке потовщення

**flatten** – ставати плоским

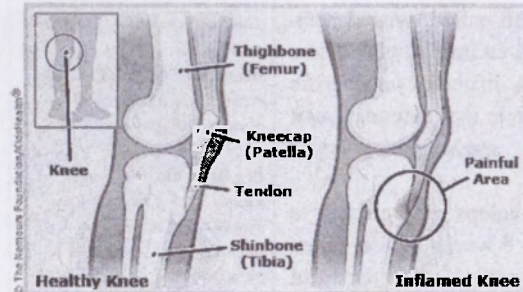
For most babies, stretching exercises and simple changes in how the infant is held or positioned will **gradually lengthen** the muscle and correct the problem. The standard treatment for **congenital** muscular torticollis consists of an exercise program to stretch the sternocleidomastoid muscle.

If nonsurgical options do not correct the torticollis, a doctor may suggest surgery.

**to lengthen gradually** – поступово видовжувати



## Osgood-Schlatter Disease



Osgood-Schlatter disease (OSD) is *far less frightful* than its name. Though it's one of the most common causes of *knee pain* in **adolescents**, it's rather an *overuse injury* than a disease. Teenagers increase their risk for OSD if they play sports involving running, twisting, and jumping, such as basketball, football, volleyball, soccer, tennis, figure skating, and gymnastics. Doctors disagree about the mechanics that cause the injury but agree that overuse and physical stress are involved.

*far less frightful* – не такий страшний

*knee pain* – біль у колінному суглобі

*overuse injury* – травма через перевтому, перетренованість

Osgood-Schlatter disease is an *inflammation* of the bone, **cartilage**, and/or tendon at the top of the *shinbone (tibia)*, at the place of the *patella tendon attachment*. Most often only one knee is affected.

Growth spurts make kids *vulnerable* because their bones, muscles, and tendons are growing quickly and not always *simultaneously*. While exercising, differences in size and strength between the muscle groups create unusual stress on the *growth plate* at the top of the shinbone. OSD can be quite painful, but usually *resolves* within 12 to 24 months.

*inflammation* – запальний процес, запалення

*shinbone (tibia)* – велика березева кістка

*patella tendon attachment* – кріплення сухожилка надколінника

*vulnerable* – уразливий

*simultaneously* – одночасно

*growth plate* – пластинка росту

*to resolve* – (тут)

проходить, зникати

## VOCABULARY CONSOLIDATION

**IX. Scan through the texts on paediatric diseases again to list the special terms / terminological units that can be grouped around the notion "Signs & Symptoms".**

**X. Choose the correct definition for the words in "bold" in the texts:**

1. the action of remedying a dislocation or fracture by returning the affected part of the body to its normal position;
2. a thick cord of nerve tissue inside your spine which connects nearly all parts of the body to the brain, with which it forms the central nervous system;
3. make smaller or less in amount, degree, or size;
4. relating to the part of the back between the lowest ribs and the hipbones;
5. a strong, flexible substance in your body, especially around your joints and in your nose;
6. state with assurance that a report or fact is true;
7. the occurrence, rate, or frequency of a disease or other undesirable thing;
8. *(of a young person)* in the process of developing from a child into an adult;
9. *(of a disease or physical abnormality)* present from birth, but is not inherited;
10. move or cause to move into a sloping position;
11. occurring, found, or done often; prevalent;
12. able or likely to cause harm or injury.

**XI. Decide, which of the alternatives is correct in the following sentences:**

1. Doctors disagree about the mechanics of OSD but agree that ...
  - a) ... overuse and physical stress could cause injury.
  - b) ... OSD is an inherited muscular distortion.
  - c) ... it occurs in the first month of pregnancy.
2. Salter-Harris fracture is dangerous because it may ...
  - a) ... prevent the lungs and heart from functioning properly.
  - b) ... cause the flattening of one side of the face and head.
  - c) ... lead to a deformity or shortening of one of the kid's extremities.

3. Spina bifida is a congenital disorder caused by ...
  - a) ... a condition in which an infant holds his or her head tilted to one side.
  - b) ... adolescents' engagement in physical activities.
  - c) ... incomplete closing of the embryonic neural tube.
4. Scoliosis is a sideways curvature of the spine that occurs most often ...
  - a) ... during the growth spurt just before puberty.
  - b) ... at the place of the patella tendon attachment.
  - c) ... as a result of overuse and physical stress.
5. The standard treatment for congenital muscular torticollis consists of ...
  - a) ... a surgical intervention combined with orthotics.
  - b) ... an exercise program to stretch the sternocleidomastoid muscle.
  - c) ... plaster cast immobilization.
6. Growth spurts make kids vulnerable to injuries and fractures because ...
  - a) ... kids don't know how to use assistive devices or how to properly adjust the sling.
  - b) ... they might happen around, across, or along the bone.
  - c) ... their bones, muscles, and tendons are growing quickly and not always simultaneously.
7. Spina bifida myelomeningocele often results in the most severe complications, involving ...
  - a) ... inflammation of the bone, cartilage, and tendon at the place of herniation.
  - b) ... protrusion of the meninges as well as the spinal cord through the unfused vertebrae.
  - c) ... herniation of the meninges, but not the spinal cord, through the opening in the spinal canal.

**XII. Give answers to the following questions:**

1. What are possible consequences of Salter-Harris fracture?
2. What are the ways of Salter-Harris fracture diagnostics?

3. How can a physical therapist turn to become helpful in Salter-Harris fracture rehabilitation?
4. Spina bifida occurs as a result of a birth injury, doesn't it?
5. What is the most common location of spina bifida?
6. Why is spina bifida myelomeningocele considered to be the most severe type of spina bifida?
7. What is the most effective means of spina bifida prevention?
8. At what period of their growth are children mostly subjected to scoliosis?
9. Can scoliosis produce a disabling effect upon children's body functioning?
10. Torticollis usually develops during pregnancy, doesn't it?
11. What are the main symptoms of torticollis?
12. Is there any standard treatment for congenital muscular torticollis?
13. Is Osgood-Schlatter disease a congenital condition, or an acquired trauma?
14. What are the common settings for acquiring Osgood-Schlatter disease?
15. Why are new-borns or toddlers not prone to Osgood-Schlatter disease?

### **III. A. LISTENING AND COMPREHENSION:**

***XIII. You are going to listen to / read information about general rehabilitation measures administered to torticollis children.***

- *Have you ever met with congenital muscular torticollis cases in your professional practice?*
- *Do you consider physical rehabilitative programmes for congenital torticollis to be rather sophisticated or complicated?*

#### **PHYSICAL THERAPY FOR CONGENITAL MUSCULAR TORTICOLLIS**

Babies with torticollis will act like most other babies except when it comes to activities that involve turning.

Some babies with torticollis might develop a flat head on one side due to lying in one and the same position all the time. Exercises for stretching the



sternocleidomastoid muscle are considered to be the most effective in treating congenital muscular torticollis. Stretching exercises include turning the baby's neck side to side so that the chin touches each shoulder, and gently tilting the head to bring the ear on the unaffected side down to the shoulder. These exercises must be done several times a day. A physical therapist can teach parents how to perform these exercises.

There are other options that can help. Place toys in the way the baby will have to turn his or her head to see them.

Laying a baby on his abdomen for a brief period while awake is an important exercise because it helps strengthen neck and shoulder muscles and prepares the baby for crawling. The baby is positioned so that his or her head is turned away from the therapist. Then the therapist should encourage the baby to turn and face him by speaking to the baby or producing some pleasant noise (singing for instance). This exercise should be practiced for 10 to 15 minutes.

Laying a baby on the stomach exercise is especially useful for a baby with torticollis and a flat head and can actually help to treat both problems at once. The condition might take up to 6 months to go away completely, though in some cases it can take up even a year or longer.

***XIV. Listen to/read the information again and tick (✓) the most appropriate physical therapy modalities for torticollis cases' rehabilitation:***

- 1) Stretching exercises for back muscles are considered to be the most effective;
- 2) Exercises for stretching the neck and shoulder muscles are strongly recommended;
- 3) Gently turn the baby's head to the left and to the right while the child is awake;
- 4) Watch that the child always sleeps on one and the same side;
- 5) Encourage the baby to follow any subject or therapist's voice in order to turn the neck to both sides;
- 6) Prone position on the baby's back prepares the baby for crawling;
- 7) Keep the baby lying on his belly for a short time when he is not sleeping.

#### IV. A. READING AND WRITING

***XV. Read and translate the article that follows making use of any of the on-line dictionaries like ABBYY Lingvo x3, ABBYY Lingvo x5, dictionary.reference.com or Merriam-webster.com.***

***While reading the article, try to divide the text into comprehensive paragraphs. Pay special attention to terminological units to perform the after-text assignments.***

A physical therapist helps those who have experienced an injury or illness to regain or maintain the ability to participate in everyday activities. For those with scoliosis, a physical therapist can provide qualified assistance through evaluation of the condition and application of manual and occupational therapy modalities. This helps scoliosis cases to manage physical symptoms so they can participate in daily activities like self-care, productivity, and leisure. One of such interventions involves bracing. During the past several decades, a large variety of bracing devices have been developed for the treatment of scoliosis. Studies demonstrate that bracing prevents further curvature of the spine in idiopathic scoliosis, while other studies have also shown that braces can be used by individuals with scoliosis during physical activities. Other interventions include postural strategies, such as posture training in sitting, standing, and sleeping positions, and in using positioning supports such as pillows, wedges, rolls, and corsets. Strengthening spinal muscles is a crucial preventative measure. This is because the muscles of back are essential when it comes to supporting the spinal column and maintaining the spine's proper shape. Exercises that will help to improve the strength of the muscles of back include stretching and extremities' extension. Furthermore, it was concluded that elastic resistance exercises were able to withstand the progression of spinal curvature. This type of exercises is able to resist the curvature progression by levelling the strength of the back torso muscles. Disability caused by scoliosis, as well as physical limitations during recovery from treatment-related surgery, often affects an individual's ability to perform self-care activities. One of the first treatments of scoliosis is the attempt to prevent further curvature of the spine. Stopping the progression of the scoliosis can

prevent the loss of function in many activities of daily living by maintaining range of motion, preventing deformity of the rib cage and reducing pain during activities such as bending or lifting. Occupational therapists are often involved in the process of designing and selection of customized cushions (*спеціальні подушки, виконані під індивідуальне замовлення*). These individualized postural supports are used to maintain the current spinal curvature, or they can be adjusted to assist in the correction of the curvature. This type of treatment can help to maintain mobility for a wheelchair user by preventing the deformity of the rib cage and maintaining an active range of motion in the arms. For other self-care activities (such as dressing, bathing, grooming, personal hygiene, and feeding), several strategies can be used as a part of occupational therapy treatment. Environmental adaptations for bathing could include a bath bench, grab bars (*ручки на стіні поруч із ванною*) installed in the shower area or a handheld shower nozzle (*спеціальна насадка*). For activities such as dressing and grooming, various assistive devices and strategies can be used to promote independence. An occupational therapist may recommend a long-handled reacher (*спеціальна ложка з довгою ручкою*) that can be used to assist self-dressing by allowing a person to avoid painful movements such as bending over; a long-handled shoehorn can be used for putting on and removing shoes. Problems with activities such as cutting meat and eating can be addressed by using specialized cutlery, kitchen utensils, or dishes.

**XVI. Entitle the text choosing the most appropriate headline from the alternatives given below:**

- ***Main Causes of Scoliosis Cases in Children***
- ***Physical Therapy Modalities in Scoliosis Treatment***
- ***Assistive Devices in Scoliosis Rehabilitation***
- ***Place of Occupational Therapy in Scoliosis Treatment***
- ***Preventive Measures in Scoliosis Therapy***

**XVII. Skip through the article once more in order to find English equivalents to the following Ukrainian phrases:**

- 1) відновити рухові можливості;
- 2) пристрої, що полегшують пересування;
- 3) працетерапія;
- 4) фіксуючий (імобілізуєчий) пристрій;
- 5) уникати болісних рухів;
- 6) викривлення хребта;
- 7) надавати кваліфіковану допомогу;
- 8) вироблення постави;
- 9) вправи на протидію;
- 10) допомагати людям повернутися до повсякденного життя.



**UNIT 3**

**PHYSICAL THERAPY IN PAEDIATRICS**

**PROGRESS CHECK**

**I. Match the words from the right column (1., 2., 3. ...) with their definitions (a), b), c) ...):**

1. movement or the ability to move from one place to another	a) assistive
2. relating to the mental process involved in knowing, learning, and understanding things	b) herniation
3. to make pain or deficiency less severe	c) cognitive
4. providing means of reducing a physical impairment	d) to tilt
5. zone of bone's development	e) locomotion
6. small bones forming the backbone	f) inflammation
7. to move or cause to move in a sloping position	g) to alleviate
8. of a disease or physical abnormality present from birth	h) growth plate
9. spina bifida formation	i) vertebrae
10. the reaction of living tissue to injury or infection, characterized by heat, redness, swelling, and pain	j) congenital

**II. One out of four words doesn't fit. Which one is it?**

1. a) abnormality;    b) conditioning;    c) pathology;    d) dysfunction;
2. a) adult;    b) kid;    c) toddler;    d) infant;
3. a) to involve;    b) to incorporate;    c) to include;    d) to support;
4. a) endurance;    b) coordination;    c) strength;    d) damage;
5. a) orthotics;    b) diagnosis;    c) bracing;    d) gait training;
6. a) handicapped;    b) dislocated;    c) disabled;    d) impaired;
7. a) to accomplish;    b) to occur;    c) to fulfil;    d) to perform;
8. a) insensitive;    b) defenseless;    c) vulnerable;    d) painful;
9. a) to assist;    b) to influence;    c) to promote;    d) to help
10. a) deformity;    b) contracture;    c) adaptation;    d) rigidity

**III. Match the beginnings with the endings:**

1. Physical therapists show children who depend on mobility aids ...
  2. Congenital muscular torticollis is a condition in which ...
  3. Modes of manual therapy include ...
  4. Salter–Harris fracture is dangerous because ...
  5. Laying a baby on the stomach exercise is especially useful for ...
  6. Teenagers increase their risk for OSD if ...
  7. Spina bifida is a congenital disorder caused by ...
- 
- a) ... stretching, massage, strengthening and endurance training.
  - b) ... the incomplete closing of the embryonic neural tube.
  - c) ... an infant holds his or her head tilted to one side.
  - d) ... they play sports involving running, twisting, and jumping, such as ball games and gymnastics.
  - e) ... a baby with torticollis and a flat head.
  - f) ... how to navigate safely in various environments.
  - g) ... it may limit normal growth of the injured bone.

**IV. Put the phrases / words in the correct order to make comprehensive sentences:**

1. therapist of Physical manual incorporates various modes therapy.  
\_\_\_\_\_
2. fracture a bone. involves Salter-Harris of the growth plate  
\_\_\_\_\_
3. month Spina in the first pregnancy. occurs bifida of  
\_\_\_\_\_
4. the curvature to prevent exercises are able progression. Resistance  
\_\_\_\_\_
5. folic acid the mother daily Spina bifida if takes conception. prior to  
can be decreased  
\_\_\_\_\_

V. Complete the text filling the gaps with the words from the box. Notice that there are 15 words but 12 gaps.

a) difficulty	b) Flexibility	c) fracture	d) prescribed	e) restore
f) range	g) tight	h) covering	i) exercises	j) infection
k) dysfunction	l) of	m) mobility	n) to participate	o) extremities

A Salter-Harris fracture can be a painful experience, and it may lead to significant loss of \_\_ 1 \_\_ if not treated properly. Teenagers may be unable \_\_ 2 \_\_ fully in sports and physical education class, and they may have \_\_ 3 \_\_ performing basic tasks, like walking or lifting items, after a fracture. After 6 to 8 weeks \_\_ 4 \_\_ immobilization physical therapy may be started to help \_\_ 5 \_\_ normal mobility after a Salter-Harris \_\_ 6 \_\_. The impairments that a therapist may work on include: \_\_ 7 \_\_ of motion (ROM), strength, gait, swelling and pain. \_\_ 8 \_\_ exercises may be required to help stretch \_\_ 9 \_\_ muscles and joints. Strengthening \_\_ 10 \_\_ can help improve adolescent's ability to use his injured \_\_ 11 \_\_ normally. Balance and proprioception exercises may be \_\_ 12 \_\_ to help the patients walk better.

UNIT 4

PSYCHOLOGICAL PROBLEMS IN PHYSICAL REHABILITATION

I. Read and learn the active vocabulary. Pay special attention to the synonymous vocabulary units.

ensuing	[ɪn'sju:ɪŋ]	подальший, наступний
significant	[sɪg'nɪfɪkənt]	значний, важливий
effect / impact	[ɪ'fekt] / ['ɪmpækt]	вплив
to suffer from	['sʌfə frɒm]	потерпати, страждати від
social support	['səʊl sə'pɔ:t]	соціальна підтримка
associated with	[ə'səʊʃieɪtɪd wɪð]	пов'язаний із
distress	[dɪs'tres]	страждання
anxiety	[æŋ'zaɪəti]	тривога
resistance to treatment	[rɪ'zɪstəns tə 'tri:tmənt]	опір лікуванню
to impair	[ɪm'peə]	погіршувати, шкодити
to interfere with	[ɪntə'fɪə wɪð]	завдавати шкоди
to experience	[ɪks'pɪəriəns]	зазнавати, переживати
to re-experience	[rɪ ɪks'pɪəriəns]	зазнати, пережити знову
clinical observation	['klɪnɪkl əbzə:'veɪʃn]	клінічне спостереження
to indicate	['ɪndɪkeɪt]	показувати, свідчити
disorder	[dɪs'ɔ:də]	розлад
restlessness	['restləsnɪs]	неспокій
depressed mood	[dɪ'prest mu:d]	пригнічений настрій
weight loss / weight gain	[weɪt lɒs / weɪt ɡeɪn]	втрата ваги / набирання ваги
to pain	[geɪn]	одержувати, здобувати
sleep disturbance	[sli:p dɪs'tə:bəns]	порушення сну
irritability	[ɪrɪtə'bɪləti]	дратівливість
heart palpitations	[hɑ:t pæl'pɪteɪʃn]	прискорене серцебиття
worthlessness / uselessness	['wɜ:θləsnɪs / 'ju:sləsnɪs]	непотрібність
guilt	[ɡɪlt]	вина, винуватість
to identify	[aɪ'dentɪfaɪ]	визначати
jittery behaviour	['dʒɪtəri bi'heɪvjə]	нервова, панікерська поведінка
worry	['wɒrɪ]	занепокоєння
avoidance	[ə'vɔɪdəns]	уникання
to produce memories of	[prə'dju:s 'memərɪs əv]	викликати спогади про
sweating	['swetɪŋ]	потіння
stomach discomfort	['stʌmək dɪs'kʌmfət]	розлад шлунку
muscle tension	['mʌsl 'tenʃn]	напруження м'язів
substance abuse	['sʌbstəns ə'bju:s]	зловживання речовинами (ліками)
to arise / to emerge	[ə'raɪz / ɪ'mə:dʒ]	виникати, з'являтися
to result from	[rɪ'zʌlt frɒm]	виникати внаслідок
psychological relief	[saɪkə'lɒdʒɪkl rɪ'li:f]	психологічне полегшення
shift of duties	[ʃɪft əv 'dju:tɪs]	зміна обов'язків
consistent medication	[kən'sɪstənt medi'keɪʃn]	тривале лікування
psychological addiction to	[saɪkə'lɒdʒɪkl ə'dɪkʃn]	психологічна залежність від
painkiller	['peɪnkɪlə]	болезаспокійливий засіб



**II. Translate without using a dictionary:**

emotional, patient, social, functional, psychological, depression, interest, physical, therapy, rehabilitation, serious, potentially, clinical, characterised, symptom, appetite, qualified, energy, nervousness, discomfort, course, medication, personal, professional, psychologist, result, control.

**III. Read and translate the text.**

**PSYCHOLOGICAL PROBLEMS IN PHYSICAL REHABILITATION**

An injury and the ensuing rehabilitation can have a significant emotional effect on patients suffering from lack of social support, pain, and functional disability.

Patients' behaviour associated with psychological distress includes displays of depression, anxiety, anger, resistance to treatment, reduced quality of physical therapy, and lack of cooperation with the rehabilitator. The psychological distress not only impairs rehabilitation but also may interfere with general psychological and emotional health.

Psychological difficulties are most common among patients who have experienced a serious injury that requires a lengthy and potentially painful rehabilitation. Clinical observation indicates that *depression and anxiety* are the most frequent psychological difficulties.

*Depressive disorders* are characterised as a depressed mood or the loss of interest in any activities. Symptoms of depression include changes in appetite, significant weight loss or gain, sleep disturbance, decreased energy, irritability, feeling of worthlessness or guilt, and thoughts of death.

*Anxiety disorders* are identified by nervousness, worry, jittery behaviour, fear of re-experiencing the injury, and avoidance of anything that produces memories of the injury. Symptoms associated with anxiety disorders include restlessness, sleep disturbance, irritability, heart palpitations, tremors, sweating, stomach discomfort, and muscle tension.

**Other psychological problems** that may be experienced by patients during the course of rehabilitation are weight-control problems, family difficulties, and substance abuse. Weight problems can arise because of the sudden inactivity combined with the need of psychological relief and enjoyment that is gained from the food. Family difficulties may result from the long-term patients' absence, the shift of duties among other family members, and the feeling of personal uselessness. Substance-abuse problem can emerge after consistent medication of the rehabilitation related pain, which may lead to psychological addiction to painkillers.

In case any of these psychological problems are present during the course of rehabilitation, an immediate qualified help of a professional psychologist would be needed.

*(Originated from "Psychological Approaches to Sports Injury Rehabilitation" / Jim Taylor, Shel Taylor — An Aspen Publication, 1997)*

**IV. Find words in the text which are similar in meaning to the following:**

- 1) experiencing sth very unpleasant or painful (*paragraph 1*)
- 2) strong feeling of displeasure with sb or sth (*paragraph 2*)
- 3) prevent sth from happening or developing in a correct way (*paragraph 2*)
- 4) physical damage done to a person or a part of his body (*paragraph 3*)
- 5) state of becoming easily annoyed or impatient (*paragraph 4*)
- 6) producing liquid on the skin surface when sh is hot, nervous or ill (*paragraph 5*)
- 7) state of being excited, worried or slightly afraid, not relaxed (*paragraph 5*)
- 8) treatment, healing, taking medicine (*paragraph 6*)
- 9) medicine that reduces pain (*paragraph 6*)
- 10) relaxed feeling that sb gets because sth bad has ended (*paragraph 6*)

**V. Give Ukrainian equivalents of the following expressions:**

- 1) displays of anxiety
- 2) common among patients
- 3) potentially painful rehabilitation
- 4) frequent psychological difficulties

- 5) loss of interest in any activities
- 6) changes in appetite
- 7) feeling of worthlessness or guilt
- 8) fear of re-experiencing the injury
- 9) rehabilitation related pain
- 10) weight-control problems

**VI. Form word-combinations and use them in the sentences of your own:**

- |               |                 |
|---------------|-----------------|
| 1) functional | a) observation  |
| 2) social     | b) behaviour    |
| 3) clinical   | c) medication   |
| 4) substance  | d) disability   |
| 5) depressed  | e) discomfort   |
| 6) sleep      | f) palpitations |
| 7) consistent | g) abuse        |
| 8) stomach    | h) mood         |
| 9) jittery    | i) disturbance  |
| 10) heart     | j) support      |

**VII. Insert the prepositions where necessary.**

*during of (6) by from with (2) in among to (3) on after*

1. The psychological distress may interfere ... general psychological and emotional health.
2. Symptoms ... depression include changes ... appetite, decreased energy and others.
3. Anxiety disorders are identified ... fear ... re-experiencing ... the injury.
4. Family difficulties may result ... the long-term patients' absence and the shift ... duties.
5. ... the course ... rehabilitation patients may experience ... weight-control problems.
6. Substance-abuse problem can emerge ... consistent medication ... pain.

7. Patients' behaviour associated ... psychological distress includes resistance ... treatment.
8. Psychological difficulties are common ... patients who have experienced ... a serious injury.
9. Injury and the ensuing ... rehabilitation can have a significant emotional effect ... patients.
10. Consistent medication ... pain may lead ... psychological addiction ... painkillers.

**VIII. Complete the sentences with opposites of the italicised words:**

1. Anxiety disorders are characterised as nervousness, worry, j\_ \_ \_ \_ \_ (*calm*) behaviour and others.
2. C\_ \_ \_ \_ \_ (*theoretical*) observation indicates that depression and anxiety are the most frequent psychological difficulties.
3. Symptoms of depression include irritability, sleep disturbance, significant weight l\_ \_ \_ (*increase*) or g\_ \_ \_ (*decrease*) and others.
4. Symptoms associated with anxiety include r\_ \_ \_ \_ \_ (*calmness*), heart palpitations, sweating, muscle t\_ \_ \_ \_ \_ (*relaxation*) and others.
5. Weight problems can arise because of the sudden i\_ \_ \_ \_ \_ (*mobility*) combined with the need of psychological r\_ \_ \_ \_ \_ (*tension*) and enjoyment that is gained from the food.
6. Psychological a\_ \_ \_ \_ \_ (*independence*) to painkillers may be caused by c\_ \_ \_ \_ \_ (*short-term*) medication of the rehabilitation related pain.
7. Feeling of w\_ \_ \_ \_ \_ (*importance*) or guilt and thoughts of d\_ \_ \_ \_ \_ (*life*) are very common for depressive disorders.
8. Psychological d\_ \_ \_ \_ \_ (*relief*) may lead to lack of cooperation with the rehabilitator and r\_ \_ \_ \_ \_ (*higher*) quality of physical therapy.
9. Some family d\_ \_ \_ \_ \_ (*harmony*) may be experienced by p\_ \_ \_ \_ \_ (*doctors*) during the course of rehabilitation.
10. A\_ \_ \_ \_ \_ (*seeking*) of anything that produces m\_ \_ \_ \_ \_ (*forgetfulness*) of the injury is common for anxiety disorders.



**IX. Match two parts of the sentences.**

- |  |   |
|--|---|
| 1. The psychological distress not only impairs rehabilitation...                   | a) ... weight-control problems, substance abuse and family difficulties.              |
| 2. Psychological difficulties are most common...                                   | b) ... characteristic depressive disorders.   |
| 3. The most frequent psychological difficulties are...                             | c) ... characteristic anxiety disorders.  |
| 4. Anything that produces memories of the injury...                                | d) ... psychological addiction to painkillers.  |
| 5. Depressed mood is one of ...  | e) ... but also may interfere with general health.                                    |
| 6. Sudden inactivity combined with psychological relief and enjoyment from food... | f) ... if any psychological problems are present during the course of rehabilitation. |
| 7. Nervousness and jittery behaviour are some of...                                | g) ... depression and anxiety.  |
| 8. During the course of rehabilitation patients may also experience...             | h) ... among patients requiring a lengthy rehabilitation.                             |
| 9. Immediate qualified help of a professional psychologist would be needed...      | i) ... is usually avoided by patients with anxiety disorders.                         |
| 10. Consistent medication of pain may lead to...                                   | j) ... may cause weight problems.   |

**X. Answer the questions.**

1. What are the displays of patients' behaviour associated with psychological distress?
2. Can psychological distress interfere with the general health of patients?
3. What are the most frequent psychological difficulties according to clinical observation?
4. What are the symptoms of depression?
5. What are the symptoms of anxiety?
6. Are there any common symptoms of depression and anxiety?
7. What other psychological problems may the patients experience during rehabilitation?
8. What are the reasons of weight-control problems among patients?
9. How does the substance-abuse problem usually emerge?
10. What other psychological problems based on your own experience can you name?

**I. Read the text and title it.**

The symptoms most commonly associated with depression include depressed mood, tearfulness and feeling of hopelessness.

Patients may describe their feeling unhappy, discouraged or hopeless. They may show an enduring decline in motivation to engage in rehabilitation. This response will be demonstrated by a lack of adherence to the rehabilitation and, when they do participate, little effort and intensity in the physical therapy.

Patients who are depressed may display a loss of confidence about recovery, including expressions of doubt and uncertainty, and catastrophizing about the injury and the probability of recovery.

This negative orientation can also generalize to other areas of their lives, producing feelings of worthlessness and helplessness in school, work and relationships. Some patients may also somaticize the reports of excessive pain associated with the injury or generalized body discomfort.

Depression will also interfere with their functioning away from rehabilitation. Depressed patients may show a loss of interest in previously enjoyable activities. They may have a deterioration in school or work performance. These patients may also withdraw socially from families, friends and individuals associated with the activities they were injured in.

A significant disruption in sleep is nearly always diagnostic of depression. Sleep disturbance is a common symptom that can affect depressed patients both inside and outside rehabilitation. It is typical for them to report difficulty falling asleep, waking frequently during the night and early morning awakening.

The sleep disruptions inhibit rehabilitation by creating tiredness and reducing the ability of patients to put full energy into physical therapy. Persistent lack of sleep also reduces school or work productivity and produces emotional sensitivity and irritability that negatively impact their social relationships.

All of these symptoms result in a lower level of energy and constant fatigue, which may greatly interfere with rehabilitation and reduce the quality of physical therapy.

*(Originated from "Psychological Approaches to Sports Injury Rehabilitation" / Jim Taylor, Shel Taylor — An Aspen Publication\* 1997)*

**II. Discuss the following due to the text:**

- *the most common symptoms of depression;*
- *the feelings commonly described by depressed patients;*
- *the effects of depressive feelings on the patients' life;*
- *the possible somatic displays of depression;*
- *the sleeping difficulties reported by depressed patients;*
- *the impact of sleeping disturbance on the patients' life;*
- *the influence of sleeping disruptions on physical therapy.*

**III. True / false statements.**

1. The symptoms commonly associated with depression include delighted mood and feeling of happiness.
2. Depressed patients may show a decline in motivation to engage in rehabilitation.
3. Patients who are depressed may display a catastrophizing about the injury and the probability of recovery.
4. Depressed patients never report of excessive pain associated with the injury or generalized body discomfort.
5. Some patients may show a loss of interest in previously enjoyable activities.
6. These patients have no deterioration in school or work performance.
7. Sleep disruptions are frequently diagnostic of depression.
8. Sleep disturbance can affect depressed patients both inside and outside rehabilitation.
9. The sleep disruptions cannot reduce the ability of patients to put full energy into physical therapy.
10. Persistent lack of sleep produces emotional sensitivity and irritability that may negatively impact social relationships.

**IV. Work in pairs. Ask and answer your own questions on the text.**

**V. Write an abstract of the text and pick up the keywords.**

**I. Read and listen about some effects that music and smiling may have upon us.**

**MUSIC AND SMILING REHABILITATION EFFECTS**

We are all aware of the emotional impact of music upon us. Music can make us happy, sad, excited and inspired.

It is also a great help in reducing anxiety. Many elite athletes listen to music before a competition in order to relax themselves.

Music can also be used during rehabilitation to control anxiety and generate positive emotions. Anxiety has, perhaps, the most harmful influence on the rehabilitation process.

First of all, it makes it very difficult for muscles to relax which in its turn increases pain. Besides, anxiety reduces blood flow to the injured area and slows the healing.

One of the most surprising but effective ways of combating anxiety is to make patients smile. Due to a medical research the motor skill of smiling releases endorphins that have an actual relaxing effect.

It helps to reduce the muscle tension of a patient and makes his mood more positive which is of great importance for the process of rehabilitation.

*(Originated from "Psychological Approaches to Sports Injury Rehabilitation" / Jim Taylor, Shel Taylor — An Aspen Publication, 1997)*

**II. Answer the questions.**

1. Have you known anything about physical impact of music upon the human body?
2. Why do some athletes listen to music before a competition?
3. How can music influence the muscle tension?
4. What are the negative effects of anxiety on the rehabilitation process?
5. How do we call the hormones released during smiling?
6. What motor skill mentioned in the text has an actual relaxing effect?



***I. Translate the text in a written form.***

**Anxiety**

The symptoms most commonly associated with anxiety include nervousness, worry and jittery behaviour. It is quite typical for patients to re-experience their injuries in a variety of ways. Reliving the injury can heighten anxiety reactions and increase pain.

Persistent thoughts and ruminations about the negative ramifications of the injury can further raise symptoms of anxiety such as poor concentration, hypervigilance and heart palpitations. Relatedly, this re-experiencing of the injury can be triggered by exposure to people and places that remind the patients of the injury. Thus, it is common for the patients to actively avoid people and places that produce memories of the injury.

Anxiety disorders can seriously interfere with the physical aspects of rehabilitation. Most notably, anxiety produces a physiological state that hinders healing by increasing muscle tension and reducing blood flow to the injured area.

The psychological symptoms of anxiety also increase pain, which can impede the patients' ability to put full effort into physical therapy, thus decreasing the quality and value of rehabilitation and slowing the recovery process. Thus, adherence to rehabilitation may decline as a means of avoiding the unpleasant exposure to reliving the injury.

Anxiety disorders can significantly impact normal daily functioning of the patients. This strong anxiety reaction can lower school and work performance by inhibiting the ability to concentrate effectively and think clearly.

Additionally, the patients who are experiencing anxiety often want to avoid people who remind them of the injury. This response can negatively influence the recovery as it causes the patients' removal from people who could provide them a considerable social support.

*(Originated from "Psychological Approaches to Sports Injury Rehabilitation" /  
Jim Taylor, Shel Taylor --- An Aspen Publication. 1997)*

## PSYCHOLOGICAL PROBLEMS IN PHYSICAL REHABILITATION

## PROGRESS CHECK

*I. Match the words with their definitions.*

- |                 |  |
|-----------------|--|
| 1. painkiller   | a) treatment, healing, taking medicine;                                    |
| 2. relief       | b) the state of being excited, worried or slightly afraid, not relaxed;    |
| 3. sweating     | c) a medicine that reduces pain;   |
| 4. nervousness  | d) a relaxed feeling that sb gets because sth bad has ended;               |
| 5. medication   | e) producing liquid on the surface of skin when sb is hot, nervous or ill; |
| 6. irritability | f) physical damage done to a person or a part of his body;                 |
| 7. interfere    | g) to experience sth very unpleasant or painful;                           |
| 8. injury       | h) the state of becoming easily annoyed or impatient;                      |
| 9. anger        | i) to prevent sth from happening or developing in the correct way;         |
| 10. suffer      | j) the strong feeling of displeasure with sb or sth.                       |

*II. Insert the necessary prepositions.*

1. Psychological difficulties are common ... patients who have experienced a serious injury.
2. Injury and the ensuing rehabilitation can have a significant emotional effect ... patients.
3. ... the course ... rehabilitation patients may experience weight-control problems.
4. Consistent medication ... pain may lead ... psychological addiction ... painkillers.
5. The psychological distress may interfere ... general psychological and emotional health.
6. Substance-abuse problem can emerge ... consistent medication ... pain.
7. Patients' behaviour associated ... psychological distress includes resistance ... treatment.
8. Anxiety disorders are identified ... fear ... re-experiencing the injury.
9. Symptoms ... depression include changes ... appetite, decreased energy and others.
10. Family difficulties may result ... the long-term patients' absence and the shift ... duties.

**III. Match the synonyms.**

- |                    |                    |
|--------------------|--------------------|
| 1 worthless (n)    | a) hurting (adj)   |
| 2 jittery (adj)    | b) misuse (n)      |
| 3 abuse (n)        | c) nervy (adj)     |
| 4 arise (v)        | d) uselessness (n) |
| 5 painful (adj)    | e) emerge (v)      |
| 6 addiction (n)    | f) impact (n)      |
| 7 experience (v)   | g) continual (adj) |
| 8 effect (n)       | h) undergo (v)     |
| 9 consistent (adj) | i) damage (v)      |
| 10 impair (v)      | j) dependence (n)  |

**IV. Match two parts of the sentences.**

- |  |   |
|--|---|
| 1. Immediate qualified help of a professional psychologist would be needed...      | a) ... weight-control problems, substance abuse and family difficulties.              |
| 2. Consistent medication of pain may lead to...                                    | b) ... characteristic depressive disorders.   |
| 3. The most frequent psychological difficulties are...                             | c) ... characteristic anxiety disorders.  |
| 4. Anything that produces memories of the injury...                                | d) ... psychological addiction to pain-killers.                                       |
| 5. Depressed mood is one of ...  | e) ... but also may interfere with general health.                                    |
| 6. Sudden inactivity combined with psychological relief and enjoyment from food... | f) ... if any psychological problems are present during the course of rehabilitation. |
| 7. Nervousness and jittery behaviour are some of...                                | g) ... depression and anxiety.  |
| 8. During the course of rehabilitation patients may also experience...             | h) ... among patients with a serious injury that requires a lengthy rehabilitation.   |
| 9. The psychological distress not only impairs rehabilitation...                   | i) ... is usually avoided by patients with anxiety disorders.                         |
| 10. Psychological difficulties are most common...                                  | j) ... may cause weight problems.   |

**V. Insert the following word-combinations in the sentences.**

- |                                   |                                |
|-----------------------------------|--------------------------------|
| a) <i>family difficulties</i>     | f) <i>weight loss or gain</i>  |
| b) <i>lack of cooperation</i>     | g) <i>heart palpitations</i>   |
| c) <i>psychological addiction</i> | h) <i>psychological relief</i> |
| d) <i>produces memories</i>       | i) <i>jittery behaviour</i>    |
| e) <i>worthlessness or guilt</i>  | j) <i>clinical observation</i> |

1. \_\_\_\_ indicates that depression and anxiety are the most frequent psychological difficulties.
2. Anxiety disorders are characterised as nervousness, worry, \_\_\_\_ and others.
3. Symptoms of depression include irritability, sleep disturbance, significant \_\_\_\_ and others.
4. Symptoms associated with anxiety include restlessness, \_\_\_\_, sweating, muscle tension and others.
5. Weight problems can arise because of the sudden inactivity combined with the need of \_\_\_\_ and enjoyment that is gained from the food.
6. \_\_\_\_ to painkillers may be caused by consistent medication of the rehabilitation related pain.
7. Feeling of \_\_\_\_ and thoughts of death are very common for depressive disorders.
8. Psychological distress may lead to \_\_\_\_ with the rehabilitator and reduced quality of physical therapy.
9. Some \_\_\_\_ may be experienced by patients during the course of rehabilitation.
10. Avoidance of anything that \_\_\_\_ of the injury is common for anxiety disorders.

**VI. Express your point of view using the following:**

*to my mind; in my opinion; as for me; I agree / I disagree with; to some extent; as far as I know; in fact; the thing is; the point is; actually; to tell the truth.*

***“Only physical traumas and injuries may interfere with our health.”***



**UNIT 5**  
**YOUNG SCIENTISTS' TRAINING IN UKRAINE**

**I. A. READING AND COMPREHENSION**

**I. Learn the vocabulary to TEXT.1A "YOUNG SCIENTISTS' TRAINING IN UKRAINE". Pay special attention to synonymous words and word combinations.**

<b>state guidelines</b>	основні напрямки розвитку держави
<b>to introduce</b>	запроваджувати
<b>single-level specialist degree</b>	навчально-кваліфікаційний рівень спеціаліста
<b>to get education free</b>	навчатися безоплатно
<b>to define main directions</b>	визначити основні напрямки
<b>to reinforce = strengthen = intensify</b>	зміцнювати; посилювати
<b>to merge = to unite</b>	зливатися, об'єднувати(-ся)
<b>metropolitan = capital</b>	1. столиця; столичний; 2. велике місто
<b>accessibility of higher education</b>	загальнодоступність вищої освіти
<b>admission to higher school</b>	прийом до вищих навчальних закладів
<b>based on competition</b>	на конкурсній основі
<b>to provide equal and fair access</b>	забезпечувати рівні та справедливі можливості вступу
<b>to pursue further studies</b>	продовжувати подальше навчання
<b>remote areas</b>	віддалені райони
<b>compulsory test</b>	обов'язкове тестування
<b>mandatory for all students</b>	обов'язкове для всіх студентів
<b>to confirm</b>	( <i>тут</i> ) надавати; підтверджувати
<b>national qualifications framework</b>	національна рамка кваліфікацій
<b>diploma supplement</b>	додаток до диплому
<b>implementation</b>	втілення
<b>European Credit Transfer and Accumulation System (ECTS)</b>	Європейська система трансферу (обміну) та акумуляції (накопичення) залікових балів (кредитів)
<b>attainment and performance</b>	результати навчання, успішність
<b>natural sciences</b>	природничі науки
<b>humanities</b>	гуманітарні науки
<b>engineering</b>	прикладні науки
<b>to assess according to ECTS</b>	оцінювати за кредитною системою
<b>grading scale</b>	шкала оцінювання
<b>to vary = to differ considerably</b>	значно відрізнятися
<b>to provide a common measure</b>	забезпечити загальну методику оцінювання
<b>to facilitate = to assist = to aid</b>	сприяти; полегшувати
<b>to be interchangeable</b>	бути взаємозамінними
<b>upon the request</b>	за поданням
<b>sufficient=enough=adequate</b>	достатній
<b>delense council</b>	( <i>тут</i> ) спеціалізована рада

**II. Read TEXT 1A and do the activities that follow:**

**TEXT 1A**

**YOUNG SCIENTISTS' TRAINING IN UKRAINE**

1. The Ukrainian education system has been in a state of transition ever since the country's independence. Democratic values have been introduced and traditional state guidelines have been combined with institutional autonomy and more academic freedom. Private higher education institutions are now allowed. In 1995 the Bachelor and Master degrees were introduced to replace the previous single-level specialist degree. And in 2005 Ukraine signed the Bologna declaration.

2. With an average of 1,6 million students the University system in Ukraine is considered to be one of the biggest in the world. School leavers can get higher education at 434 Universities (state owned or private) accredited on 3<sup>rd</sup> or 4<sup>th</sup> level. Annually about 700, 000 of state university students get their education free.

Higher education in Ukraine follows a binary model:

- academical university studies
- vocational studies.

3. The Ministry of Education and Science has the overall responsibility for planning curricula and financing higher education. The higher education system is governed by the Constitution of Ukraine (1996) and Laws of Ukraine on Education (1996; 2002; 2014). The Ukrainian Law on Higher Education from 2014 defines main directions of Ukrainian state policy for higher education, reinforcing the Bologna process and the merging of higher education institutions. Higher education institutions and students are concentrated in main metropolitan areas in Ukraine such as Kyiv, Kharkiv, Lviv, Dnipropetrovsk, Odessa, Donbas and Crimea.

4. The 2014 law "On Higher Education" proclaims accessibility of higher education for every citizen of Ukraine. According to the law, admission to higher school is based on competition. The law, furthermore, states that an applicant needs to have a state standard document for the Certificate of Complete General Secondary Education in order to take part in the admission to higher education institutions' entrance exams.

5. As part of providing equal and fair access to quality education, the Ministry of Education and Science has introduced and implemented the so-called External Independent Testing (EIT) of graduates from general secondary schools, who want to pursue further studies. This is a form of national entrance exam to higher educational institutions that has constituted one of the most significant reforms in the Ukrainian education system since independence. The EIT makes it possible for students to apply to several universities at the same time and students from remote areas are now given the same chances as students from Kyiv and other academic centres. Besides the compulsory test in Ukrainian language, the institution can freely decide which 2 subjects out of a total of 11 are required for admission. The EIT is mandatory for students intending to pursue further studies.

6. University education is organized at two levels:

- The first degree title — the **Bachelor** diploma is confirmed to the students after 4 years of University studies;
- Bachelors may apply for a year or two studies at the University for getting the **Master** degree. If they successfully pass the entrance exams in their basic subject and a foreign language, they are admitted for the Master course. At the end of studies they have to pass State Examinations in the language they studied and present their Master paper.

7. Ukraine joined the Bologna Process in 2005. Work has started on the development of a national qualifications framework according to which graduates receive diploma supplements. Ukraine is on its way to develop standards in higher education through a modular system of studies and a new credit system, similar to European Credit Transfer and Accumulation System (ECTS) and in accordance with the Bologna Declaration. The implementation of the ECTS system or of a similar credit system allows for greater student and academic staff mobility.

8. In accordance with the Bologna Process, schools in Ukraine offer four-year Bachelor programmes in a number of disciplines including natural sciences, humanities (the Arts), engineering, social sciences, law and business. The knowledge and the skills of the students during each academic year are assessed according to



ECTS. ECTS is a standard for comparing the study attainment and performance of students of higher education across the European Union and other collaborating European countries. Since many grading systems coexist in Europe and, considering that interpretation of grades varies considerably from one country to another, the ECTS grading scale has been developed to provide a common measure and facilitate the transfer of students and their grades between European higher education institutions, by allowing national and local grading systems to be interchangeable. Each institution makes its own decision on how to apply the ECTS grading scale to its system.

9. Upon completing the Bachelor's programme, students can apply for Master's programmes in Ukraine. A Master's degree curriculum in Ukraine lasts for 1–2 years. A student studying under the Master's programme is required to write a final thesis and make a presentation on the topic of his investigations. Master's level programmes for fields like medicine, dentistry, and veterinary medicine begin upon completing secondary education, and may span 5–7 years.

10. In Ukraine, the **Doctoral programme** (*aspirantura*, similar to PhD programmes) is meant for the students with a Master's degree. Admission to such courses depends upon a competitive entrance examination. PhD programmes are designed for three to four years of study and are based on a unity of study and research. According to the programme the students are required to prepare a public defense of their research thesis. If successful, the students are conferred the Candidate of Sciences' degree (it is awarded by the Higher Attestation Commission of Ukraine upon the request of the corresponding defense council).



### VOCABULARY CONSOLIDATION

**III. Read Text 1A again to find the words / word combinations whose definitions are given below. The number of the paragraph where each appropriate word can be found is given in brackets.**

1. \_\_\_\_\_ systematic investigation to establish facts or principles or to collect information on a subject (10)
2. \_\_\_\_\_ a branch of science which deals with the physical world, e.g. physics, chemistry, geology, biology etc. (8)
3. \_\_\_\_\_ a branch of science and technology concerned with the design, building and use of engines, machines and structures (8)
4. \_\_\_\_\_ a branch of science studying languages, literature, history etc. (8)
5. \_\_\_\_\_ to bring (something, especially measure or concept) into use or operation for the first time (1)
6. \_\_\_\_\_ a programme, a plan, or a list of all the courses of study offered by a school or college (3)
7. \_\_\_\_\_ someone who makes a formal written request for a job or a place at a college (4)
8. \_\_\_\_\_ to grant a title or scientific degree (10)
9. \_\_\_\_\_ something that completes or enhances something else when added to it; an addition designed to complete, make up for a deficiency, etc (7)
10. \_\_\_\_\_ without cheating or trying to achieve unjust advantage (5)
11. \_\_\_\_\_ a principle put forward to set standards or determine a course of action; a general rule, principle, or piece of advice (1)
12. \_\_\_\_\_ relating to, composed of, or involving two things (2)
13. \_\_\_\_\_ to make easier; assist the progress of sth. (8)
14. \_\_\_\_\_ teachers and scholars in a university or other institute of higher education (7)
15. \_\_\_\_\_ need for a particular purpose; specify as compulsory (5)
16. \_\_\_\_\_ a long essay or dissertation involving personal research, written by a candidate for a university degree (10)
17. \_\_\_\_\_ given or available without charge (2)

**IV. Fill in the table with the missing parts of the speech and give Ukrainian translation to each of them. A few spaces might be left blank:**

Noun	Verb	Adjective	Adverb
	succeed		
competition			
		corresponding	
			sufficiently
			possibly
		attainable	
	depend		
equality			

**V. Complete the sentences with the suitable parts of the speech from the previous task:**

1. According to the law, admission to Master degree programme depends upon a \_\_\_\_\_ entrance examination.
2. There's a strong \_\_\_\_\_ that the flight will be canceled because of the thunderstorm.
3. A lot of his rivals \_\_\_\_\_ him in strength but not in intelligence.
4. Success doesn't only depend on what you do. What you don't do is \_\_\_\_\_ important.
5. He is permanently letting me down. I can have no \_\_\_\_\_ on his word.
6. Majority of the Ukrainians believe in \_\_\_\_\_ progress of the talks concerning association of Ukraine with the European community.
7. When foods from different plant sources are eaten together, deficiency in one is usually compensated for by \_\_\_\_\_ in another.
8. The metropolitan cities usually have higher educational \_\_\_\_\_ than the nation as a whole.
9. This photograph \_\_\_\_\_ with the description that the victim gave us.
10. He is a highly responsible person and he will do everything he \_\_\_\_\_ can to aid you.
11. Jim \_\_\_\_\_ with the world's best runners in the tournament, and did well to come third.
12. Academician Vernadsky V. I. is a worldwide famous scholar of the highest \_\_\_\_\_ in the fields of geo- and biochemistry, radiology and social sciences.

VI. See if you can choose synonyms from the box to the words given below. Mind that some words can have several synonyms:

*to award degree adequate discipline mandatory essential chance  
attainment professional to research compulsory to intensify important  
successful to explore to strengthen enough lucky appendix demand  
to assist to span to provide possibility the arts application to merge*

1. fortunate
2. to investigate
3. natural sciences
4. to confer
5. opportunity
6. subject
7. achievement
8. to supply
9. significant
10. to facilitate
11. to last
12. grade
13. sufficient
14. request
15. to unite
16. obligatory
17. to reinforce
18. supplement

VII. Replace the italicized words in the sentences by their antonyms from the box:

*fail similar to facilitate compulsory humanities inadequate binary*

1. The External Independent Testing is *optional* for secondary school graduates intending to pursue further studies.
2. Higher education in Ukraine follows a *unitary* model.
3. After fulfilling the requirements of a Complete General Secondary Education programme young people have *sufficient* skills and knowledge to enter the Doctoral programme.
4. Ukrainian new credit and modular system of studies *differs from* European Credit Transfer and Accumulation System (ECTS)
5. The students who *succeed* in passing exams and get "F" credit mark have to repeat their course of studies.
6. The ECTS grading scale has been developed *to complicate* the transfer of students between European higher education institutions.
7. *Engineering* is a branch of sciences that study languages, literature, history etc.

## I. B. COMPREHENSION AND DISCUSSION

VIII. See below an interview with Oleksandr Skorohod, Head of the Young Scientists Council of Ukraine (TEXT 1B). Review the vocabulary units before reading each item of the interview. Think of the ways how to headline the article. Some prompts that might help you are following the article.

### TEXT 1B

<p>According to the official statistics, there are about 135 thousand scientists in Ukraine, but it does not specify how many young scientists (under 36) are among them. "With the decrease of the total number of scientific workers in Ukraine, <b>the number</b> of specialists with doctor's and master's degrees <b>does not drop</b>, which means the <b>intelligent element of scientific staff</b> remains stable," <i>ForUm</i> learned from the State agency on Science, Innovations and IT. (<i>ForUm</i> — news from Ukraine and abroad: Informational resource of Ukraine: news, comments, interesting analytics, foreign mass media monitoring.)</p>	<p><b>the number does not drop</b> – кількість не зменшується</p> <p><b>intelligent element of scientific staff</b> – (тут) інтелектуальний рівень науковців</p> <p><b>IT (information technologies)</b> – інформаційні технології</p>
<p>However, this statement is questionable. The problem of "<b>brain drain</b>" appeared in Ukraine with declaration of independence. The young country did not have money to pay state salaries, pensions and scholarships, thus scientific research <b>was not among the priorities</b>. Since then, half of young scientists have kept leaving Ukraine. Oleksandr Skorohod, Head of the Young Scientists Council of Ukraine, told <i>ForUm</i>. Oleksandr is 27 and he works at the Institute of molecular biology and genetics of Ukraine's Academy of Science, in the department of <b>cell signaling systems</b>. According to him, young scientists have hard time of <b>surviving</b> in Ukraine. "Financing and <b>equipment supplying are dry</b>. However, we apply for European grants and go abroad to do a part of work there. The state tries to solve the problem this way or another, but it is obviously not enough. But there are scientists who come back nevertheless."</p>	<p><b>"brain drain"</b> – вплив висококваліфікованих фахівців за кордон</p> <p><b>to be among the priorities</b> – бути серед першорядних завдань</p> <p><b>cell signaling systems</b> – клітинні сигнальні системи</p> <p><b>surviving</b> – виживання</p> <p><b>equipment supplying is dry</b> – забезпечення обладнанням недостатнє</p>



The problem is that these people do not sell potatoes. Scientific work **requires full commitment**, even fanaticism. It is easier to go abroad than to follow several jobs here. "Foreign institutes take our specialists with great pleasure. Six or seven specialists defended their theses last year and half of them left. People found jobs in Germany, Belgium, Canada. Our people are hardworking and every institute is glad to hire them. Moreover, Ukrainians **are not strict-minded in following manuals** and can find ways to simplify or improve some methods. Foreigners like them for this. Besides, education level of our people is not bad. We need to learn deeper highly specialized disciplines, but thanks to grants our scientists **keep profile**," — the young scientist states. The situation with grants is also complicated. If the matter concerns big grants, like from NATO for example, Ukrainian scientists have small chances to win them. At such high level, more advanced European labs have a priority. But if the matter concerns some small grants — three months or half a year, then European structures prefer to invite scientists from Eastern Europe.

**to require full commitment** –  
потребувати повної відданості

**not to be strict-minded in following manuals** –  
не завжди робити так, як книжка пише

**to keep profile** –  
утримувати належний рівень

Oleksandr Skorohod believes that a scientist first must be a patriot of science, not of a country. "A scientist first must be a patriot of science, as he realizes himself through science. At the same time, if there is a possibility he must remain the patriot of his country. For example, if having received the Nobel Prize he **has an opportunity** to promote the development of science in his country he must do it. I would like to leave the country **to gain some experience** abroad, but **not forever**. I've been in many European countries and I cannot say I enjoyed staying there. The life here is more joyful," Skorohod says smiling.

**to have an opportunity** –  
мати можливість

**to gain experience** –  
набувати досвіду

**not forever** – не  
назавжди

<p>However, he <b>admits</b> that sometimes scientists are forced to leave science, and family is one of such reasons. Having children is expensive and people seek other ways <b>to earn money</b>. Family is also one of the reasons why there are not so many female professors in science. According to Skorohod, there are many girls among <b>junior research assistants</b>, but then they get married and have to take care of the family and children rather than science.</p> <p>The situation is aggravated by the fact that the profession of a "scientist" is hardly <b>considered</b> a prestigious one. The image of a successful person, created by mass media, includes such attributes as Armani suit and a Mercedes, not the white robe and a bicycle to arrive to the Institute of molecular biology and genetics. However, Oleksandr does not think his life or career has failed. "I believe that if your profession brings you the <b>feeling of completeness</b>, it does not matter what this profession is. The most important thing is that your <b>profession meets your vocation</b>."</p>	<p><b>to admit</b> – визнавати, припускати</p> <p><b>to earn money</b> – заробляти гроші</p> <p><b>junior research assistants</b> – молодший науковий співробітник</p> <p><b>to consider</b> – вважати, розглядати</p> <p><b>feeling of completeness</b> – відчуття завершеності, повноти</p> <p><b>profession meets your vocation</b> – професія за покликом</p>
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<p>Among the sciences, physics is the most prestigious. Biology follows right behind, thanks to such <b>promoted subjects</b> as <b>cloning and stem cells</b>. Chemistry is considered the least prestigious, but there are physical chemistry and biochemistry, which are <b>at the intersection of disciplines</b>. "The most prestigious departments are molecular biology and biotechnologies, as they are being invested the most and have more Nobel Prize winners" the scientists say.</p>	<p><b>promoted subjects</b> – передові галузі науки</p> <p><b>cloning and stem cells</b> – клонування та стовбурові клітини</p> <p><b>at the intersection of disciplines</b> – на стику дисциплін</p>
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<p>"I consider myself a successful person. I write, <b>do martial arts</b> and discover more new possibilities for self-realization in science. I would like to get the Nobel Prize for <b>inventing universal remedy</b> against cancer. Studying the issue I have realized that it is not pure biology, but psychology as well. Cancer problem must be considered from various angles," future Nobel Prize winner believes.</p>	<p><b>do martial arts</b> – займатися бойовими мистецтвами</p> <p><b>to invent universal remedy</b> – винайти універсальні ліки</p>
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**IX. Which of the following titles in your opinion best corresponds to the content of the interview you've just read?**

- Nobel Prize Winner about the Future of the Ukrainian Science
- Prestigious and Non-prestigious Professions in Ukraine
- Burning Problems Facing Ukrainian Young Scientists
- Life and Career of Oleksandr Skorohod, Future Nobel Prize Winner
- Young Scientists of Ukraine Keep Profile

**X. Take part in the discussion concerning the issues that follow. While expressing your opinion or commenting on the statements use the following phrases:**

Agreement:		Disagreement:	
As I see it	На мій погляд	I don't (happen to) think so	Я іншої думки
In my opinion	На мою думку	I can't agree with this	Я не можу з цим погодитись
As far as I can see	Наскільки я розумію	I shouldn't say so	Я б так не сказав
I fully / certainly agree with this	Я повністю погоджуюсь з цим	Of course not / Not in the least	Нічого подібного
I should say so	Мабуть, що так	You never know	Важко сказати
It's common knowledge that	Усім відомо, що	I must express some disagreements with	Я не зовсім згоден з ...

- Profession of a "scientist" is hardly considered a prestigious one.
- A scientist first must be a patriot of science, not of a country.
- The most important thing is that your profession should meet your vocation.
- Foreigners like Ukrainians because they are not strict-minded in following manuals and can find ways to simplify or improve some methods.
- Sometimes scientists are forced to leave science, and family is one of such reasons.
- Scientific work requires full commitment, even fanaticism.
- There are no prestigious or non-prestigious professions.

### III. A. LISTENING AND COMPREHENSION:

*XI. Listen to the information on languages teaching at the Ukrainian universities for the students of non-linguistic departments.*

*Before listening ask your group mates for how long they have been studying foreign languages; which languages they consider to be necessary for their future jobs; learn whether they are satisfied with their command of foreign languages.*

#### LANGUAGES AT UKRAINIAN UNIVERSITIES

Language teaching schedules are highly variable: from 240 to 432 hours of Foreign Language and 108 hours of Ukrainian depending on the department. Choices (of language and schedule) have not been made according to the special needs of the students or those of the future profession's orientation. The majority of faculties opt for the teaching of English, or English and German. Only a few faculties such as the Faculty of Economics and the Faculty of Social Sciences implement a wider selection of languages, meaning, in addition to English and German, also French, Italian and Russian.

Generally speaking,

- language knowledge plays no special role in university access: language teaching is often the responsibility of language departments, of linguistic centres or of courses given by qualified teachers;
- courses are elaborated by the teachers on the basis of the specific needs of each department;
- Certifications do not seem to be calibrated with respect to the *Framework*.

Analysis of the current situation of languages in Ukrainian system of higher education underlines the fact that civil society recognizes the importance of languages in the context of its geographical position, economic perspectives and integration to the European Community. Ukraine as a multilingual society has considerable potential, which can be exploited further to enhance purposeful foreign languages study for its citizens.



**XII. Listen to the information again and answer the questions that follow:**

- Do you share the author's major standpoints?
- Are you satisfied with the methods and ways of teaching foreign languages at your higher school?
- Which innovations in your judgment should be introduced to improve the level of language teaching and further the foreign languages knowledge of the students at the Ukrainian higher educational establishments?

**IV. A. READING AND WRITING**

**XIII. Read and translate the article on UK Higher Educational Qualifications making use of any of the on-line dictionaries like ABBYY Lingvo x3, ABBYY Lingvo x5, dictionary.reference.com or Merriam-webster.com. Pay special attention to terminological units to perform the after-text assignments.**

**UK HIGHER EDUCATION QUALIFICATIONS**

UK universities and colleges offer thousands of excellent courses, leading to qualifications (*qualification – диплом, атестат, свідоцтво*) that are respected by employers and academics worldwide. When you think of UK higher education qualifications, you might think of bachelor's and master's degrees, MBAs and PhDs. There are, however, many other types.

At **undergraduate level** (переддипломна освіта) the main qualifications offered are:

- **Bachelor's or undergraduate degree** (*базовий університетський курс, який дає право на отримання ступеню бакалавра*): Academic study designed to help you gain a thorough understanding of a subject. Full-time, this normally takes three years to complete (four in some cases). There are different titles of degree, such as: Bachelor of Arts (BA) (*бакалавр мистецтв, бакалавр гуманітарних наук*), Bachelor of Science (BSc) (*бакалавр природничих або точних наук*), Bachelor of Education (BED) (*бакалавр педагогіки*) and Bachelor of Engineering (BEng) (*бакалавр прикладних наук*).
- **Foundation degree** (*підготовчий базовий курс, який не дає право на отримання диплому*): The equivalent of the first two years of an honours degree (*університетський курс*), this may be studied full- or part-time, and consists of academic study integrated with relevant work-based learning

undertaken with an employer. It may be studied as a standalone qualification or upon completion you may progress to the final year of an honours degree.

- **Diploma of Higher Education:** Two year, full-time DipHE courses are normally equivalent to the first two years of a degree and can often be used for entry to the third year of a related degree course. They can be academic, but are mainly linked to a particular job or profession such as nursing and social work.
- **Certificate of Higher Education:** Focuses on either a particular job or profession, or academic study. Equivalent to the first year of a full honours degree, they are the most basic level of qualification that can be gained in higher education and show that you are capable of studying successfully at university level. You can use a CertHE to gain confidence to study successfully at university level, change careers or progress your current career, or to achieve a foundation degree, DipHE or full honours degree through additional study.
- **Higher National Diploma (HND) (a qualification in technical subjects equivalent to an ordinary degree):** A two-year course which, if completed with high grades, can lead to the third year of a degree.

At postgraduate level (*післядипломна освіта*), the main qualifications offered are:

- **Master's degree** (*ступінь магістра*). A master's qualification gives you the opportunity to further your knowledge of a particular subject or to go in a completely different direction using the skills you've gained from your undergraduate studies. A master's degree is an academic qualification awarded to individuals who successfully demonstrate a higher level of expertise in a particular field of study.
- **MBA courses** (*магістр ділового управління*). A Master of Business Administration (MBA) degree is an internationally recognised qualification which gives you the skills you need for a successful management career. MBA courses cover topics such as business policy and strategy, operational and strategic management, marketing, market research, finance and accounting, IT, human resource management, leadership, entrepreneurship and international trade.
- **PhDs / doctorates** (*PhD — доктор філософії — вчений ступінь, який відповідає вітчизняному ступеню кандидата наук; надається магістрам як гуманітарних, так і природничих наук*). A Doctor of Philosophy or doctorate (PhD / DPhil) is the highest academic level a student can achieve. These degrees are very demanding and often lead to careers in academia. Although you don't necessarily need a master's degree, it is usual practice to undertake one before a PhD.

- **Postgraduate diplomas and qualifications.** For those wishing to continue their studies beyond an undergraduate degree, a variety of options are available. Postgrad certificates and diplomas allow students to study something new or build on the skills and knowledge already gained during their first degree.
- **Professional and vocational qualifications.** A professional or vocational qualification is usually taken to improve skills or gain attributes required by specific jobs. Most awards will involve practical training, giving you the opportunity to experience a job first-hand.
- **Conversion courses (*курс переподготовки*).** A conversion course is a vocational postgraduate qualification usually taken by graduates wanting to change subject area after their first degree and better prepare themselves for the job market.

**Research** postgraduate programmes involve in-depth study of a specific field, usually over a period of two or three years. You then report on your research by writing it in the form of a thesis or dissertation.

#### **Subjects and modules**

Most higher education courses have a ‘modular’ structure. This means that you can build a personalized course by choosing modules or units of study from different subject areas. For example, if you are studying English literature, for your first year you could choose one module on Science fiction, one module on Children’s literature, and one module on Short stories.

If you are interested in more than one subject, you may be able to study a combination as part of your course, e.g. English literature and psychology. You can often decide for yourself how much time you would like to spend on each subject. ‘Joint’ means the two subjects are studied equally (50/50), ‘major/minor’ means the time spent is usually 75% / 25%.

#### **Study modes**

Most full-time undergraduate courses take three years to complete (typically four years in Scotland). Full-time postgraduate courses can be from one year upwards.

**Part-time courses** are normally taken over a longer period, so that you can work alongside your studies or learn at a more relaxed pace. There is no set length of time for part-time courses — it varies from one course to another.



### **The academic year**

In the UK, the standard academic year starts in September or October and runs until June or July. Some courses are more flexible, however, and offer a range of start dates.

**XIV. Skip through the article once more in order to find English equivalents to the following Ukrainian phrases:**

- диплом міжнародного визнання
- рівень компетентності, майстерності
- бакалавр гуманітарних наук
- викладач або науковий співробітник коледжу / університету  
(одним словом)
- отримати безпосередній досвід роботи
- управління трудовими ресурсами
- післядипломна освіта
- бакалавр прикладних наук
- наукові кола, наукова громадськість
- фінанси та облік
- навчальний рік
- магістр ділового управління
- ринок праці
- ступінь доктора філософії

**XV. Make an oral presentation of the topic. Try to compare the system of higher education qualifications legalized in the UK and those adopted in Ukrainian universities**



## PROGRESS CHECK

*I. Match the words from the right column with their definitions:*

1. the opportunity or right to enter, or make use of sth.	a) access
2. able to speak more than two languages	b) curriculum
3. a document added to some other paper in order to complete or enhance it	c) to apply for
4. to allow participation (in) or the right to be part (of)	d) mobility
5. a branch of science studying languages, literature, history etc.	e) compulsory
6. a list of all the courses of study offered by a school or college	f) to admit to
7. to grant or award an honour or scientific degree	g) humanities
8. possible but not compulsory; left to personal choice	h) free
9. movement within or between institutions or occupations	i) supplement
10. to put in an application or request	j) optional
11. the emigration of scientists, technologists, academics, etc., for better pay, equipment, or conditions	k) brain drain
12. costing nothing; provided without charge	l) multilingual
13. required by regulations or laws; obligatory	m) to confer

*II. One out of four words doesn't fit. Which one is it?*

1. a) foundation	b) vocation	c) occupation	d) trade
2. a) greatly	b) independently	c) considerably	d) significantly
3. a) to continue	b) to pursue	c) to provide	d) to follow
4. a) access	b) admission	c) accreditation	d) admittance
5. a) chargeable	b) costing nothing	c) free	d) without charge
6. a) yearly	b) annually	c) new year	d) every year
7. a) engineering	b) mountaineering	c) natural sciences	d) humanities
8. a) average	b) usual	c) customary	d) possible
9. a) change	b) transition	c) translation	d) passage
10. a) appendix	b) advice	c) supplement	d) addendum
11. a) significant	b) sufficient	c) enough	d) adequate
12. a) mandatory	b) optional	c) obligatory	d) compulsory
13. a) to unite	b) to blend	c) to help	d) to merge
14. a) to award	b) to facilitate	c) to confer	d) to grant
15. a) to provide	b) to reinforce	c) to strengthen	d) to intensify

**III. Which of the alternatives is correct in the following sentences?**

1. Admission to the Doctoral programme in Ukraine depends upon a ...  
(a) *competition*; b) *competitive*; c) *compete*) entrance examination.
2. The Ministry of Education and Science has been fully ... (a) *responsibility*;  
b) *respond*; c) *responsible*) for financing higher education.
3. UK universities offer thousands of excellent courses, leading to qualifications  
that ... (a) *respect*; b) *are respected*; c) *respectful*) by employers and  
academics worldwide.
4. In order to become an efficient physical therapist in let us say pediatrics, one  
should acquire ... (a) *correspond*; b) *correspondent*; c) *corresponding*;) education and professional efficacy.
5. Various European universities don't adhere to a unified system of grades and  
credits interpretation, which differs ... (a) *considerably*; b) *considerate*;  
c) *considerable*) from one country to another.

**IV. Put the phrases/words in the correct order to make comprehensive sentences:**

1. full          work          commitment.          requires          Scientific  
\_\_\_\_\_
2. Institutions    financing    State    rather dry.    of    research    is    Ukrainian  
\_\_\_\_\_
3. chances    scientists    have    to win    Ukrainian    small    NATO grants.  
\_\_\_\_\_
4. occurs    your vocation.    meets    when    Self-realization    your profession often  
\_\_\_\_\_
5. abroad.    scientists    some leave    Young    experience    the    to gain    country  
\_\_\_\_\_

V. Complete the cloze test reconstructing the text, in which approximately every 7<sup>th</sup> word is omitted. Fill in the gaps with the words you consider appropriate, guessing the missing letters.

### University of Oxford

The **University of Oxford** (informally **Oxford University** or simply **Oxford**) is a collegiate research university located in Oxford, England. While having no known date of f\_\_\_\_\_t\_\_\_ there is evidence of teaching as far b\_c\_ as 1096, making it the oldest u\_\_\_\_\_y in the English-speaking world, and the w\_r\_ second-oldest surviving university. It grew r\_p\_\_\_\_\_ from 1167 when Henry II banned E\_\_\_\_\_h students from attending the University of Paris.

The University is made up f\_o\_ a variety of institutions, including 38 constituent c\_\_l\_\_\_\_\_ and a full range of academic d\_p\_\_\_\_\_e\_\_\_\_\_ which are organized into four Divisions. A\_\_ the colleges are self-governing institutions as pa\_\_ of the University, each controlling its o\_\_ membership and with its own internal s\_r\_\_\_\_\_u\_\_\_\_\_ and activities. Being a city university, it d\_\_\_\_\_ not have a main campus; i\_\_\_\_\_ea\_, all the buildings and facilities are scattered \_h\_\_\_\_gh\_ the metropolitan centre. Oxford operates the \_\_r\_e\_\_ university press in the world and t\_\_ largest academic library system in the United \_\_\_\_\_m.

Oxford has educated many notable alumni, \_\_c\_\_\_\_\_g 27 Nobel laureates (58 total affiliations), 26 B\_\_\_\_\_ Prime Ministers (most recently David Cameron) and many \_\_\_\_\_gn heads of state.

*(From Wikipedia, the free encyclopedia)*

### List of References

1. *Brammer Christopher M. Manual of Physical Medicine & Rehabilitation / Christopher M. Brammer, M. Catherine Spires.* — Hanley & Belfus, Inc. — Philadelphia, 2002. — 511 p.
2. *Dunn John M. Special Physical Education / John M. Dunn.* — Brown & Benchmark Publishers. — USA, 1997. — 634 p.
3. *Fox E. The Physiological Basis for Exercise and Sport / E. Fox, R. Bowers, V. Foss.* — Brown & Benchmark Publishers. — Madison, Wisconsin, Iowa, 1993. — 710 p.
4. *Glendinning Eric H. Professional English in Use (Medicine) / Eric H. Glendinning, Ron Howard.* — Cambridge University Press, 2007. — 175 p.
5. *Gyls Barbara A. Medical Terminology Simplified: a programmed learning approach by body systems / Barbara A. Gyls.* — F. A. Davis Company, Philadelphia, 1993. — 493 p.
6. *Kelly Keith Science / Keith Kelly.* — Macmillan Publishers Limited. — Thailand by MPAL, 2008. — 254 p.
7. *Riley P. A. and Cunningham P. J. The Faber Pocket Medical Dictionary.* — London, 1966. — 372 p.
8. *Norkin Cyntia C., Joint Structure and Function / Cyntia C. Norkin, Pamela K. Levangie.* — F. A. Davis Company, Philadelphia, 1992. — 505 p.
9. *Shamus Eric Sports Injury. Prevention and Rehabilitation / Eric Shamu, Jennifer Shamus.* — The McGraw-Hill Companies, Inc. — USA, 2001. — 512 p.
10. *Англійська мова для студентів-медиків: Підручник / А. І. Гурська із співав.* — Львів : Світ, 2003. — 248 с.
11. *Захарчук І. Англійська мова. Здоров'я: Підручник / І. Захарчук.* — К. : Медицина, 2006. — 176 с. — Англ.
12. *Нечай С. Російсько-український медичний словник з іншомовними назвами / С. Нечай.* — К. : УЛТК, Фонд ГТ, 2000. — 432 с.
13. *Новий англо-український медичний словник: Близько 75 000 термінів / За ред. Ривкіна В. Л., Бенюмовича М. С.; Відп. ред. Л. І. Шевченко, В. І. Шматко* — К. : Арій, 2007. — 784 с.
14. *Федонюк Я. І. Функціональна анатомія: Підручник для студентів навчальних закладів з фізичного виховання і спорту III та IV рівнів акредитації / Я. І. Федонюк, Б. М. Мицкан, С. Л. Попель та інші.* — Тернопіль : Навчальна книга — Богдан, 2008. — 552 с.
15. *Янков А. В. Англійська мова для студентів-медиків: анатомічна, клінічна та фармацевтична термінологія: Підручник.* — 2-ге вид / А. В. Янков. — К. : Вища шк., 2004. — 261 с. — Англ., укр.
16. *Яхонтова Т. В. Основи англійського наукового письма: Навч. посібник для студентів, аспірантів і науковців.* — Вид. 2-ге. — Львів : ПАІС, 2003. — 220 с. — Англ.



Навчальне видання

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