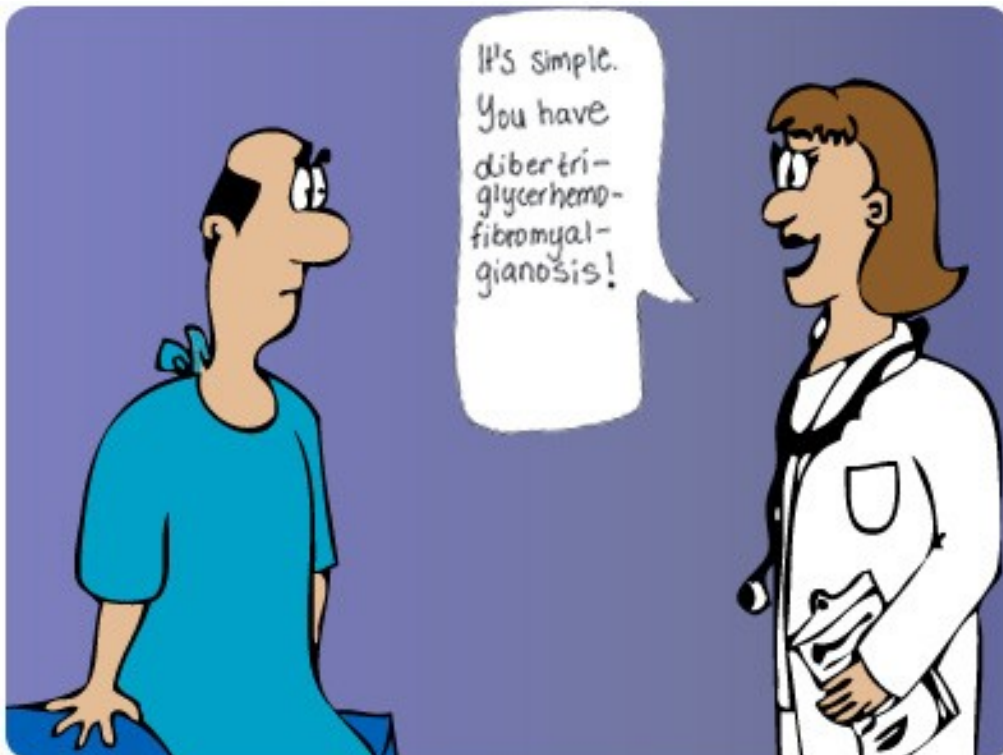


11. RESEARCH ON INFLUENZA

1. Health and diseases. Work in small groups. Discuss these questions¹:

1. Do you ever get headaches? Do you know anyone who suffers from migraine?
2. Do you take vitamins or minerals? Why or why not?
3. Do you think keeping a pet is good for a person's health?
4. Do you think you will live until a very old age? Why or why not?
5. Do you know anyone with false teeth? Are you afraid of a dentist?
6. Have you ever broken a bone?
7. Have you ever given blood?
8. Do you know your blood type?
9. Have you ever taken a sleeping pill to get to sleep?
10. Which kind of medicine do you prefer to take when you are sick?
11. Have you ever practiced alternative medicine (acupuncture etc.)?
12. What home medicines do you have in your country for the following illnesses or situations: Cold, stomachache (bolest žaludku), hangover (kocovina), hiccups (škytavka), sore throat (bolest v krku)?
13. Do you know how a disease is spread from one person to another?



READING: FLU'S SECRET INGREDIENT²

2. Vocabulary. Do you know these words from our previous lessons?

protein (n), discovery (n) (make a discovery), research (n), researcher (n), scientific (adj), scientist (n), findings (n, pl), accidental find (adj+n), occur (v)

New vocabulary. Do you know how to pronounce these words?

| | | |
|---------------------------------|---|--------------------------|
| flu, influenza (n) - chřipka | determine (v) - určit | impact (v) – mít dopad |
| cell (n) - buňka | involve (v) – zahrnovat | produce (v) – produkovat |
| strain (n) of virus - druh viru | consider (v) – považovat za | attack (v) – napadat |
| virulent (adj.) – zhoubný | recognise (v) - rozpoznat | |
| recently (adv) - nedávno | infectious/contagious diseases (adj+n) – infekční choroby | |
| | flu vaccine (n+n) očkování proti chřipce | |

4. Scanning. Read the text quickly and answer this question: What is the flu's secret ingredient?

5. Multiple choice - Choose the right option:

- The researchers made the discovery
 - while trying to identify the number of proteins in a flu virus
 - while working on a project aiming to understand the structure of a flu virus
 - accidentally, while studying the body's immune system
- Dr Jonathan Yewdell is
 - the author of the article
 - the author of the research project
 - the leader of the research
- The impact of the discovery described in the text
 - will be great
 - cannot be determined at the moment
 - will be small

6. Comprehension Say whether these statements are true or false.

If they are false, say what is true.

a) The flu virus produces 11 proteins. T/F

.....
b) The newly discovered protein goes to ribozomes. T/F

.....
c) This protein can determine the virulency of the flu virus. T/F

.....

7. Read the text again and try to give the Czech equivalents of the following expressions:

- make a chance discovery
- be good at attacking humans
- identify an additional protein
- determine how virulent a particular strain of the flu virus is
- consider the resulting peptides as waste products
- accelerate the ability to harm cells
- it remains to be seen
- further research is likely

8. Speaking. In pairs, summarize the main points of the text without looking at the article.

Flu's secret ingredient

A team of virus experts recently made a chance discovery, which could change the way that scientists understand the structure of the flu virus. (*Science In Action* reports on the accidental find).

New research may explain why the influenza virus is so good at attacking humans. Previously scientists had thought that the flu virus produced 10 protein molecules, however researchers at the National Institute of Allergy and Infectious Diseases recently identified an additional protein.

Whilst studying the body's immune system, the scientists accidentally found a "hidden" protein. They believe that the state of this protein could determine how virulent a particular strain of the flu virus is.

Leader of the research, Dr Jonathan Yewdell explains: 'This is a very interesting new protein that is encoded by the virus in a very tricky way so that it eluded investigators for nearly 20 years.'

'When this protein is made it goes to the part of the cell that is involved in producing energy for the cell, called the mitochondria. It sits in the mitochondria and in certain cases it ends up killing the cell.'

When a virus enters a cell it has the ability to quickly replicate itself. In the past scientists had considered the resulting peptides as waste products of the duplicating process.

However the researchers involved in this latest study recognised that there were large amounts of a particular protein occurring in flu-infected cells. This led them to believe that the presence of this toxic protein could dictate how strong a particular strain of flu is.

How this discovery will impact flu vaccines remains to be seen. However further research into why the protein is absent in some other animals is likely.

Flu is caused by a virus



9. Do you know some ways of preventing various diseases? Note them down.

10. Complete a short questionnaire about your health TRUE counts as 1 point, FALSE as 0 points.. (min. 0 points, max. 10 points = very healthy lifestyle). Then compare and discuss your answers in small groups.

- | | |
|--|-----|
| 1. I don't eat fast food and fatty meat. | T/F |
| 2. I eat fruit and vegetables every day. | T/F |
| 3. I go for regular medical check-ups. | T/F |
| 4. I go to the dentist's twice a year. | T/F |
| 5. I have very little stress. | T/F |
| 6. I don't drink much alcohol. | T/F |
| 7. I sleep 8 hours every night. | T/F |
| 8. I do exercises/sports and go for walks. | T/F |
| 9. I don't smoke. | T/F |
| 10. I drink 2 litres of water every day. | T/F |

LISTENING. St Jude's Medical Minute.³

Vocabulary:

respiratory (adj)- dýchací
reduce the risk (v) - snížit riziko
according to - podle
four out of five – čtyři z pěti

reason (n)- důvod
physician (n)- lékař
avoid (v) - vyhnout se
suggest (v) - navrhnout

11. Listen to the recording. What is the main topic?

- a) Doctors advise people to get flu shots (=vaccines against influenza).
- b) There will be a lot of influenza this year
- c) Influenza is a very contagious disease



b) Listen again and fill in the gaps.

With the flu season in full swing, physicians strongly **suggest** getting a flu shot. This is a St. Jude Medical Minute.

Influenza is a contagious **respiratory** virus that millions of people worldwide. Getting a flu shot helps **reduce the risk** of getting and the virus.

Dr. Jon McCullers is a member of the Diseases department at St. Jude Children's Research Hospital.

"This year, **according to** the CDC, we're expecting to be a very severe influenza year. It may be as bad as the 1997 year which was the worst one in the last decade or so. The of the flu shot depends a bit on how good a job we do of matching it to the circulating of influenza each year. In most years, this means about **four out of five** people who get their flu shot will not get the flu. The one out of five people who do get the flu from it will generally have a much milder and will have their symptoms go away two or three days earlier. The second **reason** that's particularly important this year is that infectious disease **physicians** and the CDC are worried that SARS is going to come back out this winter and, if it does, the are very similar and we would have difficulty telling the difference between a person who had the flu and a person who had SARS. So, getting your flu right now is the best chance of **avoiding** that confusion this winter if this occurs."

To reduce the of getting the flu, McCullers **suggests** frequent, especially when around someone who has, has coughed or is sick.

For more information about, visit our Web site at stjude dot org.

For the St. Jude Medical Minute, I'm Geoffrey Redick.

11. HOMEWORK:

Search the Internet and find information about some research or discovery (from the history or from modern times). Prepare a short presentation about it. You will talk about it at the beginning of the next class for about 2-3 minutes. Speak from your notes.

You can enrich your presentation with these phrases:

1. Good morning/ afternoon/ Hello, everyone.
2. My name is ... and this is...I would like to talk about.../I'm/ We're going to be talking about.../ We would like to show you.../ We will take a look at...
3. First of all...
Finally...
4. That's all./My/our presentation is over. Thank you for your attention./ Thank you for your time and attention.

Sources: ¹ Available at <http://iteslj.org/questions/>
² Available at http://news.bbc.co.uk/2/hi/health/medical_notes/281873.stm
³ Available at <http://www.stjude.org>
Lesson adapted from Marie Sabolová.

| Week 10 – RESEARCH ON INFLUENZA - Vocabulary | |
|---|-------------------------------|
| make a chance discovery / accidental find | učinit náhodný objev |
| health and diseases | zdraví a nemoci |
| ingredient (n) | přísada |
| identify an additional protein | identifikovat další bílkovinu |
| flu, influenza (n) | chřipka |
| cell (n) | buňka |
| virulent strain of virus | zhoubn druh viru |
| recently (adv) | nedávno |
| flu vaccine (n+n) | očkování proti chřipce |
| infectious/contagious diseases (adj+n) | infekční choroby |
| infect (v) | nakazit |
| determine (v) | určit |
| consider (v) | považovat za |
| recognise (v) | rozpoznat |
| impact (v) | mít dopad |
| involve (v) | zahrnovat |
| attack (v) | napadat |
| produce (v) | produkovat |
| resulting peptides (adj+n) | výsledné peptidy |
| waste products (adj+n) | odpadní produkty |
| the ability to harm cells | schopnost poškodit buňky |
| further research is likely | další výzkum je pravděpodobný |
| it remains to be seen | teprve se uvidí |
| respiratory (adj) | dýchací |
| reduce the risk (v+n) | zvýšit riziko |
| spread the virus (v+n) | šířit virus |
| reason why ... | důvod proč... |
| physician (n) | lékař |
| avoid (v) | vyhnout se |
| effectiveness (n) | účinnost |
| effective prevention(adj+n) | účinná prevence |
| symptoms (n) | symptomy |