Unit 23

Temperature

Human beings maintain an almost constant body temperature. The normal temperature of some adults is as low as 97°F and in others, it is as high as 99°F. There is also a normal daily variation of about one degree. The temperature is lowest in the early hours of the morning and highest in the evening.

Body heat is produced by metabolic and muscular activity. It is lost by evaporation of sweat from the skin, expiration of air from the lungs and excretion of urine and faeces.

The balance between heat production and heat loss is maintained by the heat-regulating centre in the hypothalamus, which is sensitive to minute variations in the temperature of the blood passing through it.

A rise in blood temperature produces an increase in the flow of blood to the surface of the body. Sweat gland activity is increased, muscle tone is diminished and there is unwillingness to move about.

A fall in blood temperature produces a decreased flow of blood to the superficial vessels. There is decreased activity of the sweat glands, increased muscle tone and a desire to move about. Shivering, which is a reflex contraction of the muscles, may occur to increase heat production.

Vocabulary

human being – człowiek, istota ludzka
human beings – ludzie
to maintain – utrzymywać
constant – stały
body temperature – temperatura ciała
the temperature is as low as... – najniższa temperatura wynosi...
the temperature is as high as... – najwyższa temperatura wynosi...
daily variation – wahania dobowe
degree – stopień
body heat – temperatura ciała
is produced by... – jest wytwarzany przez...
metabolic – metaboliczny
muscular – mięśniowy
activity – działanie
to lose (lost, lost) – *tu:* tracić
evaporation – parowanie
expiration – wydychanie
excretion – wydalanie
balance – równowaga

Fahrenheit and Centigrade

The Fahrenheit thermometric scale extends from 0° to 212°. 0°F = –18°C, 32°F = 0°C (freezing point) and 212°F = 100°C (boiling point). Normal body temperature is 98.4°F.
To convert degrees Fahrenheit into degrees Centigrade, we subtract 32, multiply by 5, and divide by 9.
Example 100°F

$$100 - 32 = 68$$
$$68 \times 5 = 340$$
$$340 \div 9 = 37.7$$
$$\therefore 100°F = 37.7°C$$

To convert from Centigrade into Fahrenheit, we multiply by 9, divide by 5, and add 32.
Example 25°C

$$25 \times 9 = 225$$
$$225 \div 5 = 45$$
$$45 + 32 = 77$$
$$\therefore 25°C = 77°F$$

A

Which words in the text have the same meaning as

1 near the surface .....
2 unchanging .....
3 alteration .....
4 extremely small .....
5 decreased .....
6 breathing out .....
7 controlling .....
8 changing into vapour .....
9 reluctance .....
10 discharge of waste products .....

B

Write five sentences using the following verbs

1 to maintain
2 to produce
3 to increase
4 to decrease
5 to occur

heat production – wytwarzanie ciepła
heat loss – utrata ciepła
heat-regulating – regulujący ciepło
hypothalamus – podwzgórze
sensitive – wrażliwy
to be sensitive to sth – być wrażliwym na coś
minute – bardzo mały
variation – zmiana
rise – wzrost
increase – wzrost
flow – przepływ
surface – powierzchnia
muscle tone – napięcie mięśniowe
to diminish – zmniejszyć (się)
unwillingness – niechęć
to move about – ruszać się
fall – spadek
blood temperature – temperatura krwi
decreased – zmniejszony
increased – zwiększony
desire – pragnienie, chęć
shivering – dreszcze
reflex – odruch; *tu:* odruchowy
contraction – skurcz
to occur – wystąpić
Fahrenheit thermometric scale – skala temperatury Fahrenheita
degrees Fahrenheit – stopnie Fahrenheita
degrees Centigrade – stopnie Celsjusza
to extend – rozciągać się
freezing point – temperatura zamarzania
boiling point – temperatura wrzenia
to convert – przeliczyć
to subtract – odejmować
to multiply – mnożyć
to divide – dzielić
alteration – zmiana
reluctance – niechęć

T.P.R. CHART

Name Hosp. no.

First names Date of Birth Sex

MONTH

Consultant Ward

	Day																						
	41	M I	M I	M I	M I	M i	M I	M I	M I	M I	M I	M I	M i	M I	M I	M I	M I	M I	M I	M I	M I	M I	105-B
TEMPERATURE	40																						104
	39																						102-2
	38																						100-4
	37																						98-6
	36																						96-8
	150																						150
	140																						140
	130																						130
PULSE	120																						120
	110																						110
	100																						100
	90																						90
	80																						80
	70																						70
	60																						60
	50																						50
RESPIRATION	40																						40
	30																						30
	20																						20
	10																						10
BLOOD PRESSURE		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	BLOOD PRESSURE
FLUID INTAKE																							FLUID INTAKE
URINE	Volume																						Volume
URINE	Specific Gravity																						Specific Gravity
URINE	Reaction																						Reaction (URINE)
URINE	Albumin																						Albumin
URINE	Sugar																						Sugar
URINE																							
VOMIT																							VOMIT
BOWELS																							BOWELS