

## Topic: Examination of pulse by palpation

Name, UČO:

### 1. Estimation of heart rate at rest

Procedure:

1. Resting heart rate is examined in a sitting position.
2. After a sufficient rest, count the pulse on a. radialis (right or left hand) in intervals of 5, 10, 20, 30 and 60 seconds, write to tables and transform to minute values.
3. If you want to add some additional persons to the measurement, you can also measure them and add them to the table (as person no 2,3,4).
4. During measurement, try to monitor the pulse quality (see presentation or textbook)

Pulse rate (pulseR)	5 s	pulseR/ min	10 s	pulseR/ min	20 s	pulseR/ min	30 s	pulseR/ min	60 s
1. a.radialis sin/dx									
2. a.radialis sin/dx									
3. a.radialis sin/dx									
4. a.radialis sin/dx									

In conclusion: Compare resting pulse rate with physiological values, explain the differences. Evaluate counting of pulse rate in intervals shorter than 1 minute. Evaluate qualities of peripheral pulse.

Conclusion:

### 2. Respiratory arrhythmia

Procedure:

1. In our examination we shall try, by careful palpation, to learn whether the respiratory arrhythmia is present at normal respiration – i.e. slight acceleration of pulseR during inspiration and slowness on expiration, periodically recurring. If you find out, continue with step 2. If addition to breathing is not observed, write this to conclusion.
2. If respiratory arrhythmia is detected, try to observe: If the test person accelerates breathing, the respiratory arrhythmia disappears. On the other hand, respiratory arrhythmia is very pronounced with slow breathing (4 seconds inspiration, 5 seconds expiration).

Did you detect respiratory arrhythmia? yes / no

If yes, did your person respond to the acceleration and deceleration of breathing according to point 2 above? yes / no (if not, try to explain)

In conclusion: summarize the success or failure of monitoring respiratory arrhythmia verbally.

Conclusion:

### 3. Pulse rate in changes of posture - Orthostatic reaction


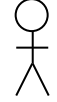
Procedure:

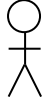

1. Examined person first takes several minutes (2-5 min) of rest in supine position on bed.
2. Determine the resting pulse rate by palpation on *a. radialis* (while lying down).
3. The test person gets up from the bed. We determine again by palpation on the a. radialis pulse rate as soon as possible after position change (time 0).
4. Enter the values in the table below - enter the numeric value in the field, select the field using the pre-printed scale pulseR/min.

### 4. Pulse rate in changes of posture - Clinostatic reaction

Procedure:

1. Examined person first takes 2-5 minutes of rest in standing position.
2. Determine the resting pulse rate by palpation on a.radialis.
3. The test person will lie down on the bed. We determine again by palpation on the a. radialis pulse rate as soon as possible after position change (time 0).
4. Enter the values in the table in the same way.

<b>Position</b>		
<b>Time(min)</b>		<b>0</b>
<b>pulseR/min</b>		
<b>90-99</b>		
<b>80-89</b>		
<b>70-79</b>		
<b>60-69</b>		
<b>50-59</b>		

<b>Position</b>		
<b>Time(min)</b>		<b>0</b>
<b>pulseR/min</b>		
<b>90-99</b>		
<b>80-89</b>		
<b>70-79</b>		
<b>60-69</b>		
<b>50-59</b>		

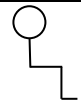

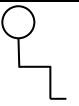
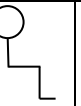

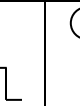
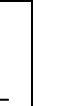
In conclusion, comment on the results of the measurement, whether they correspond to the theory and describe and explain orthostatic and clinostatic reactions.

Conclusion:

**5. Changes of pulse rate during muscular load**

Procedure:

1. Examined person first takes 2-5 minutes of rest in sitting position.
2. Determine the resting pulse rate by palpation on a.radialis.
3. Examined person performs 30 deep squats in quick (in about 1-sec interval).
4. After exercise the subject sits down immediately (time 0) and from 20 second intervals determine the pulse rate at the beginning of each minute after the end of the exercise.
5. Monitor the pulse rate and stop it after recovery of pulse frequency to resting value (at least 3 minutes after the end of the load).
6. Enter the values in the table below (direct numeric value in the appropriate fields according to the scale pulseR/min).

<b>Position</b>							
<b>Time(min)</b>	rest	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>		
<b>pulseR/min</b>							
<b>170-179</b>							
<b>160-169</b>							
<b>150-159</b>							
<b>140-149</b>							
<b>130-139</b>							
<b>120-129</b>							
<b>110-119</b>							
<b>100-109</b>							
<b>90-99</b>							
<b>80-89</b>							
<b>70-79</b>							
<b>60-69</b>							
<b>50-59</b>							

In conclusion describe and explain pulse rate changes after physical exercise.

Conclusion: