

# PEAK EXPIRATION

## FLOW RATE

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(2010)

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### IMPORTANT

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### Introduction

Peak Expiration Flow Rate is the maximum speed of expiration that can be achieved by an individual. This is measured by a Peak Flow Meter (picture below), and expressed in litres per minute.

The results can be indicative of wellbeing as higher values are typically noted when the individual is "well", and lower values when the individual is "unwell" and the respiratory airways are restricted.

### Measuring Peak Expiration Flow Rate

Peak flow measurements can be easily self-administered.

To take a peak flow reading:

- Slide the pointer on the peak flow meter to zero.
- Sit or stand in an upright, relaxed, and comfortable position.
- Hold the meter level, keeping fingers away from the pointer.
- Take as deep a breath as possible, and close your lips around the mouthpiece.
- Blow as hard as you can into the meter (it is the speed of exhalation that is being measured).
- Look at the pointer and read off the measurement.
- Slide the pointer back to zero, and repeat two more times.
- The highest of the three readings is the one that is used.



Peak Flow readings will vary according to the individual's age, height, and gender; and will also vary from person to person. Consequently, it is subjective as to what an individual's best peak flow should be.

The following tables note typical values of a healthy adult individual:

<b>Adult Male</b>					
<b>Age</b>	<b>Height</b>				
	<b>5' 0"</b>	<b>5' 5"</b>	<b>5' 10"</b>	<b>6' 3"</b>	<b>6' 8"</b>
20	554	602	649	693	740
25	543	590	636	679	725
30	532	577	622	664	710
35	521	565	609	651	695
40	509	552	596	636	680
45	498	540	583	622	665
50	486	527	569	607	649
55	475	515	556	593	634
60	463	502	542	578	618
65	452	490	529	564	603
70	440	477	515	550	587
<b>Typical Peak Expiration Flow Rate - Litres per Minute</b>					

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<b>Adult Female</b>					
<b>Age</b>	<b>Height</b>				
	<b>4' 7"</b>	<b>5' 0"</b>	<b>5' 5"</b>	<b>5' 10"</b>	<b>6' 3"</b>
20	390	423	460	496	529
25	385	418	454	490	523
30	380	413	448	483	516
35	375	408	442	476	509
40	370	402	436	470	502
45	363	397	430	464	495
50	360	391	424	457	488
55	355	386	418	451	482
60	350	380	412	445	475
65	345	375	406	439	468
70	340	369	400	432	461
<b>Typical Peak Expiration Flow Rate - Litres per Minute</b>					

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**Note:** an individual's peak flow could be less, which could be normal for them, and they are in good health.

The best of three readings is used as the measured value of the Peak Expiratory Flow Rate.

**Zones**

Regarding respiratory conditions such as asthma, peak flow measurements are typically classified into three zones of measurement, namely green, yellow, and red (picture right). Consequently, evaluation of respiratory ease can be gauged from the zones:



Zone	Reading	Description
<b>Green Zone</b>	80 to 100 percent of the usual or normal peak flow readings are clear.	A peak flow reading in the green zone indicates that the lungs are functioning well.
<b>Yellow Zone</b>	50 to 80 percent of the usual or normal peak flow readings	A peak flow reading in the yellow zone Indicates caution, the respiratory airways are narrowing, and the individual should seek the advice of their health professional.
<b>Red Zone</b>	Less than 50 percent of the usual or normal peak flow readings	A peak flow reading in the red zone Indicates a serious condition, there is severe airway narrowing of the respiratory airways, and immediate action needs to be taken. This would typically involve contacting a doctor or emergency centre.

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**Respiration Rate**

Normal respiration rate for an adult, at rest, ranges from 15 to 20 breaths per minute.

Respiration rates greater than 25 breaths per minute, or less than 12 breaths per minute, may be considered abnormal.

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02062010