

Meranie rýchlosti výdychu výdychomerom

Vrcholový expiračný prietok (PEF) je maximálna rýchlosť, ktorou môže osoba vydýchnuť počas krátko maximálneho úsilia po maximálnom inspiriu. Normálne hodnoty sú uvedené v tabuľke. (Kalkulátor aj na webe: <http://reference.medscape.com/calculator/peak-expiratory-flow>)

Predicted average peak expiratory flow for normal males (L/min)

Age	Height				
	60 inches/152 cm	65 inches/165 cm	70 inches/178 cm	75 inches/191 cm	80 inches/203 cm
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

These values represent average normal values within 100 L/min. Predicted values for African American and Hispanic minorities are approximately 10 percent lower.

Redrawn from: Leiner GC, et al, *Am Rev Respir Dis* 1963; 88:644.

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Predicted average peak expiratory flow for normal females (L/min)

Age	Height				
	55 inches/140 cm	60 inches/152 cm	65 inches/165 cm	70 inches/178 cm	75 inches/190 cm
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	365	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

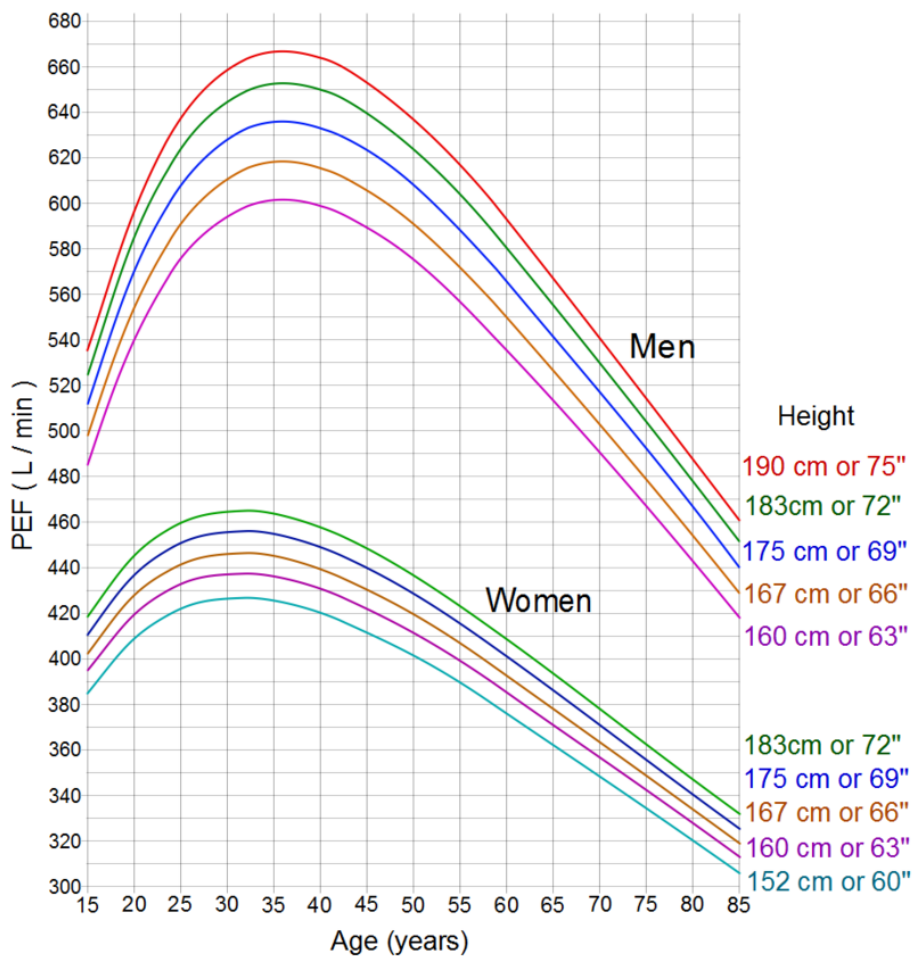
These values represent average normal values within 80 L/min. Predicted values for African American and Hispanic minorities are approximately 10 percent lower.

Redrawn from: Leiner GC, et al, *Am Rev Respir Dis* 1963; 88:644.

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Normal values for peak expiratory flow (PEF)

EN 13826 or EU scale

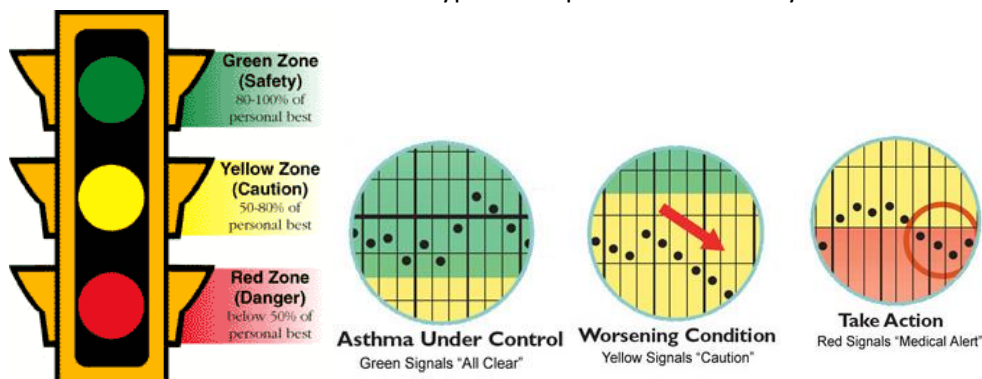


Hodnoty PEF sú nižšie, keď sú dýchacie cesty sú zúžené. Pri opakovaných vyšetreniach pacienta je dôležité sledovať najmä zmeny hodnôt PEF, teda ich zníženie. (Pozri diapozitív.)

Význam: Meranie PEF výdychomerom sa v praxi využíva na včasnú diagnostiku obštrukcie dýchacích ciest pri návšteve v ambulancii, overenie variability tonusu dýchacích ciest, ako aj na priebežné sledovanie účinnosti liečby.

Keďže ide o prístroj s jednoduchou manipuláciou a ľahkou dostupnosťou a cenou, výdychomer umožňuje aj **samokontrolu** (selfmonitoring) pacienta, t.j. domáce monitorovanie chorých v noci, pri záchvate, ako aj monitorovanie v zamestnaní (profesionálna astma). Výdychomery môžu byť ako výbava podobne ako tlakomery v ambulanciách, na oddeleniach, na centrálnom príjme.

Pre použitie pri samokontrolе hodnoty PEF sú pre jednoduchosť často rozdelené do 3 zón: zelená, žltá a červená. Lekári a zdravotníci môžu vypracovať plán riadenia astmy na základe zeleno-žlto-červenej zóny.



Pomôcky: výdychomer, náustok, tabuľky normálnych hodnôt

Postup:

1. Vytiahnite náustok a vsuňte ho do výdychomera.
2. Posuňte ukazovateľ do východzej polohy, poloha nula.
3. Stojte vzpriamene. Uchopte prístroj palcom a ukazovákom.
4. Nadýchnite sa tak hlboko, ako je to len možné. Vložte náustok do úst a pevne ho perami zovrite.
5. Vydýchnite do náustka tak prudko a rýchlo, ako je to len možné.
6. Vytiahnite náustok z úst a na stupnici prístroja odčítajte nameranú hodnotu PEF.
7. Meranie ešte dvakrát zopakujte. Najvyššiu z troch nameraných hodnôt zaznamenajte.

Obrázky:



My Asthma Action Plan

Name: _____ Date: _____




Parent/Guardian: _____

Healthcare Provider: _____

Phone for healthcare provider: _____

Phone for taxi or friend: _____ Emergency #911 _____

Other instructions: _____

I feel GOOD (Green)	<ul style="list-style-type: none"> Breathing is easy. No cough or wheeze. Can work and play 	<input type="checkbox"/> Use asthma long-term control medicine.	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Medicine:</th> <th style="text-align: left; border-bottom: 1px solid black;">How taken:</th> <th style="text-align: left; border-bottom: 1px solid black;">How much:</th> <th style="text-align: left; border-bottom: 1px solid black;">When:</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____ times a day</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____ times a day</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____ times a day</td> </tr> </tbody> </table>	Medicine:	How taken:	How much:	When:	_____	_____	_____	_____ times a day	_____	_____	_____	_____ times a day	_____	_____	_____	_____ times a day	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; border-bottom: 1px solid black;">Peak Flow Numbers: ____ to ____</td> <td>20 minutes before exercise or sports, take _____ puffs of _____</td> </tr> </table>	Peak Flow Numbers: ____ to ____	20 minutes before exercise or sports, take _____ puffs of _____			
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I do NOT feel good (Yellow)	<ul style="list-style-type: none"> Cough Wheeze Hard to breathe Wake up at night. Can do some, but not all activities. 	<p>TAKE _____ puffs of quick-relief medicine. If not back in the Green Zone within 20 to 30 minutes, take _____ more puffs.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Medicine:</th> <th style="text-align: left; border-bottom: 1px solid black;">How taken:</th> <th style="text-align: left; border-bottom: 1px solid black;">How much:</th> <th style="text-align: left; border-bottom: 1px solid black;">When:</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>every _____ hours</td> </tr> </tbody> </table> <p>KEEP USING long-term control medicine:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Medicine:</th> <th style="text-align: left; border-bottom: 1px solid black;">How taken:</th> <th style="text-align: left; border-bottom: 1px solid black;">How much:</th> <th style="text-align: left; border-bottom: 1px solid black;">When:</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____ times a day</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____ times a day</td> </tr> </tbody> </table>	Medicine:	How taken:	How much:	When:	_____	_____	_____	every _____ hours	Medicine:	How taken:	How much:	When:	_____	_____	_____	_____ times a day	_____	_____	_____	_____ times a day	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; border-bottom: 1px solid black;">Peak Flow Numbers: ____ to ____</td> <td>Call healthcare provider if quick-relief medicine does not work OR if these symptoms happen more than twice a week.</td> </tr> </table>	Peak Flow Numbers: ____ to ____	Call healthcare provider if quick-relief medicine does not work OR if these symptoms happen more than twice a week.
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I feel AWFUL (RED)	<ul style="list-style-type: none"> Medicine does not help. Breathing is hard and fast. Can't walk well. Can't talk. Feel very scared 	<p>Get help now! Take these quick-relief medicines until you get emergency care.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Medicine:</th> <th style="text-align: left; border-bottom: 1px solid black;">How taken:</th> <th style="text-align: left; border-bottom: 1px solid black;">How much:</th> <th style="text-align: left; border-bottom: 1px solid black;">When:</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>	Medicine:	How taken:	How much:	When:	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; border-bottom: 1px solid black;">Peak Flow Number: Under ____</td> <td>Call 911 if can't walk or talk because it is too hard to breathe OR if lethargic OR if skin is sucked in around neck and ribs during breaths OR if lips or fingernails are gray or blue.</td> </tr> </table>	Peak Flow Number: Under ____	Call 911 if can't walk or talk because it is too hard to breathe OR if lethargic OR if skin is sucked in around neck and ribs during breaths OR if lips or fingernails are gray or blue.				
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