



Therapeutic approach: How to get there

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This is the third article in the series on general practice prescribing. Last month we focussed on determining the therapeutic goal for each patient. This month we discuss how to plan and achieve therapeutic goals.

BACKGROUND After determining the therapeutic goals for an individual patient, the next step in good prescribing is planning a therapeutic approach to achieve these goals.

OBJECTIVE This article aims to illustrate the process of the therapeutic approach. An example of a patient with asthma is discussed, and the evidence base for the possible lifestyle interventions is reviewed.

DISCUSSION Clinicians often treat the therapeutic approach as a two step process of identifying nonpharmacological then drug related interventions. However, the scope of therapeutic approaches is really much broader than this. It encompasses lifestyle change, education, avoidance of triggers, procedural interventions, patient self management, as well as drug treatment. The latter may actually include medication cessation.

Case history

Tom is a 36 year old truck driver who has had asthma since childhood. He is currently managed with a maximum dose of a combination inhaler of steroids and long acting β_2 agonist, and still finds that he is using his salbutamol 3–4 times per day. He smokes 25 cigarettes per day and reports dust, perfume, grasses and white wine as triggers. He does not have any other medical problems but is overweight (105 kg) with a body mass index of 33 kg/m².

Once you have decided which therapeutic goals are appropriate for a patient, you then have to determine your therapeutic approach, or how you are going to achieve the therapeutic goals. Most clinicians think of this simply as offering pharmacological and nonpharmacological treatments, but the term is really much broader in scope. Consider the case of Tom and his asthma.

Determining the therapeutic approach

Many practitioners view the nonpharmacological approach as consisting of avoiding triggers and trying to get Tom to stop smoking, but as you can see from Table 1, this is a very limited view of the therapeutic approach to his asthma.

Obviously, this is a large list of issues to deal with in a 15 minute consultation. In real life this represents a list of possible therapeutic options, and you would choose to place a priority on each intervention and aim to achieve it within a certain time frame. It is also useful to tick off the interventions that have been tried and document whether or not each has been successful. This can be very useful if referring to a specialist, as well as for medicolegal purposes, and where practice incentive payments are applicable.

Therapeutic approach for asthma

Smoking cessation would certainly be an important intervention in achieving many of the therapeutic goals for Tom including reducing acute attacks, improving

Table 1. Therapeutic approaches for asthma. The priority and time frame should be individualised for each patient

Therapeutic goal	Therapeutic approach	Priority	Time frame (to be negotiated with the patient)
Improved exercise tolerance	Smoking cessation – pharmacological – nonpharmacological Weight loss – Pharmacological – Nonpharmacological Exercise Pharmacological therapy		
Preventing acute attacks	Reducing exposure to allergens Smoking cessation Asthma management plan Pharmacological therapy		
Preventing hospital admissions	Vaccination Asthma management plan Pharmacological therapy		
Preventing long term complications	Smoking cessation Pharmacological therapy Asthma management plan		

exercise tolerance and avoiding long term complications. Smoking cessation itself may have a nonpharmacological and/or pharmacological component. Although many of us take a nihilistic attitude toward encouraging smoking cessation, it is important to remember that a number of different interventions have been shown to work. There is evidence for individual behavioural,¹ and telephone counselling,² nicotine replacement therapy,³ as well as bupropion and nortryptiline⁴ improving abstinence rates (although the risks associated with the latter antidepressants are higher than other therapies mentioned and nortryptiline is not indicated for this use in Australia). Even simple physician advice has been shown to have an effect on smoking cessation.⁵

There is also evidence that weight loss improves symptoms as well as lung function test parameters in patients with asthma.⁶ Again weight loss can be achieved with a pharmacological and/or nonpharmacological approach.

Greater patient education and involvement in self management is another approach to achieving therapeutic goals, and there is evidence that giving information coupled with self monitoring, regular review and a written action plan is effective in asthma.⁷

‘Big ticket items’ first

You can appreciate from Table 1 that certain interventions such as smoking cessation and the development of an asthma management plan tend to appear more frequently, and have a greater impact

Table 2. Examples of nonpharmacological interventions for which high level evidence for efficacy exists

Condition	Treatment
Osteoarthritis	Aerobic and resistance exercise ¹² Patient education and self management ¹² Transcutaneous electrical stimulation ¹³
Fibromyalgia	Exercise ¹⁴
Hypertension	Weight loss ¹⁵ Salt reduction ¹⁶
Diabetes	Weight loss ¹⁷
Low back pain	Massage ¹⁸ Multidisciplinary rehabilitation ¹⁹
Sleep disorders in elderly	CBT ²⁰ Exercise ²¹
Premenstrual syndrome	CBT ²²
Chronic obstructive pulmonary disease	Pulmonary rehabilitation ²³ CBT (for symptoms of anxiety/depression) ²⁴
Chronic fatigue syndrome	CBT ²⁵
Hip fractures	Hip protectors ²⁶
Ischaemic heart disease	Mediterranean diet ²⁷ Fish oil supplementation ²⁸

than others, such as reducing exposure to allergens. Given that attacking all of these interventions at the same time would be difficult, this method identifies the ‘big ticket items’ to aim for first.

Nonpharmacological approaches

Thinking about the therapeutic approaches often brings up the issue of pursuing nonpharmacological approaches. Back in medical school every time a therapeutics question was asked, we always knew the first answer should be: lifestyle, lifestyle, lifestyle! Mind you, none of us actually believed it! This was largely

Table 3. Drugs causing or exacerbating hypertension

Ethanol
NSAIDs
COX-II inhibitors
Estrogen containing medications including hormone replacement therapy
Systemic corticosteroids
Sibutramine
Orlistat
Venlafaxine
Bupropion
Pseudoephedrine
Selegeline
Nonselective monoamine oxidase inhibitors
Moclobemide
Triptans for migraine
Cyclosporine
Tacrolimus
Ergotamine
Testosterone
Danazol
Phentermine
Dexamphetamine
Methylphenidate
Epoetin
Fludrocortisone
Reboxetine

because there was very little evidence then that lifestyle modifications actually did anything. The situation is different now: there is good evidence, often from randomised controlled trials, that non-pharmacological approaches are as effective as, or help supplement drug therapy for many common problems. Table 2 gives examples of where nonpharmacological approaches have been shown to be effective in randomised trials.

From Table 2, it is evident that certain approaches have great efficacy against a number of conditions such as weight reduction, exercise, or cognitive behavioural therapy (CBT), while others are more specific such as the use of hip protectors. (In fact, when you look at the

evidence for CBT, it seems to be effective at everything it is tried for. I suspect someone right now is studying it for plantar warts! The difficulty often being cost effective access for patients). Even modest weight loss of 5–10 kg can be very effective in its health benefits for a wide number of conditions. Similar to smoking, there is evidence that obesity is often not discussed in therapeutic interactions, despite the fact that even brief counselling has been shown to have some effect.⁸ Many patients are trying to lose weight, but only a small number are using the recommended combination of calorie restriction and exercise.⁹ There is some evidence that successful weight loss occurs more commonly in patients with a high level of satisfaction with their body image and without a past history of weight cycling.¹⁰ Therefore, such patients could be targeted as being more likely to be successful. Many conditions such as depression, smoking, obesity, and osteoarthritis tend to coexist and are inter-related, therefore treating one condition, eg. encouragement for moderate exercise such as walking for obesity, can have flow on effects on other conditions as well.

Many patients feel disinclined about attempting lifestyle interventions because of negative previous experiences such as diets or exercise programs that have failed. It is a useful approach to ask the patient to consider lifestyle changes that they still see themselves doing in a year's time, and only attempting these. Examples include getting off the bus a stop earlier, which is sustainable compared to going to the gym three times per week, which may not be.

Medication review

When discussing pharmacological options in therapeutic approaches, we usually mean the addition of new medication. However, it is important to appreciate that this can also include the alteration or even cessation of existing medications. There have been a large number of

reports of peripheral oedema and hypertension with COX-II inhibitors, as well as respiratory symptoms of dyspnoea and worsening of asthma.¹¹ It would be tempting under these circumstances to alter the treatment of the underlying cardiac failure, hypertension, or asthma therapies, respectively. A more appropriate approach would be to remove the medication that is exacerbating these conditions, rather than adding in any new medications. Another common example is medications that can cause or exacerbate hypertension (Table 3).

Conclusion

After determining the therapeutic goals for an individual patient, you need to determine the therapeutic approach you will adopt to achieve these goals. These approaches can be quite broad and each can include pharmacological and non-pharmacological interventions. In general practice consultations the need for certain behavioural changes such as weight loss and smoking cessation frequently arise. It is important to remember that there is evidence these therapeutic interventions can be effective. There is also increasing evidence for nonpharmacological approaches being successful in the management of other conditions. Often they are as effective as pharmacological interventions and offer a viable alternative. In many other cases they can supplement drug therapy for a greater benefit.

Next month's article will look at how to choose between different drug classes and the factors influencing this decision.

Conflict of interest: none declared.

Further reading

Many of the references for this month's article come from the Cochrane Collaboration which is now free to all Australians. Check it out at: <http://www.update-software.com/clibng/cliblogon.htm> and press the 'log on anonymously button'.

References

1. Lancaster T, Stead L F. Individual behavioural counselling for smoking cessation (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
2. Stead L F, Lancaster T, Perera R. Telephone counselling for smoking cessation (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
3. Silagy C, Lancaster T, Stead L, Mant D, Fowler G. Nicotine replacement therapy for smoking cessation (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
4. Hughes J R, Stead L F, Lancaster T. Antidepressants for smoking cessation (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
5. Silagy C, Stead L F. Physician advice for smoking cessation (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
6. Stenius-Aarniala B, Poussa T, Kvarnstrom J, Gronlund E L, Ylikahri M, Mustajoki P. Immediate and long term effects of weight reduction in obese people with asthma: randomised controlled study. *Br Med J* 2000; 320(7238):827-832.
7. Coughlan J, Wilson A, Gibson P. Summary Report of the 1999 Evidence Based Review of the Australian Six Step Asthma Management Plan: NSW Health, 2000.
8. Ramsay L E, Ramsay M H, Hettiarachchi J, Davies D L, Winchester J. Weight reduction in a blood pressure clinic. *Br Med J* 1978; 2(6132):244-245.
9. Serdula M K, Mokdad A H, Williamson D F, Galuska D A, Mendlein J M, Heath G W. Prevalence of attempting weight loss and strategies for controlling weight. *JAMA* 1999; 282(14):1353-1358.
10. Kiernan M, King A C, Kraemer H C, Stefanick M L, Killen J D. Characteristics of successful and unsuccessful dieters: an application of signal detection methodology. *Ann Behav Med* 1998; 20:1-6.
11. Celecoxib: early Australian reporting experience. *ADRAC Bulletin* June 2000; 19(2):2.
12. March L M, Stenmark J. Nonpharmacological approaches to managing arthritis. *Med J Aust* 2001; 175(Suppl):S102-S107.
13. Osiri M, Welch V, Brosseau L, et al. Transcutaneous electrical nerve stimulation for knee osteoarthritis (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
14. Busch A, Schachter C L, Peloso P M, Bombardier C. Exercise for treating fibromyalgia syndrome. (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
15. Stevens V J, Obarzanek E, Cook N R, et al. Long term weight loss and changes in blood pressure: results of the trials of hypertension prevention, phase II. *Ann Intern Med* 2001; 134:1-11.
16. Sacks F M, Svetkey L M, Vollmer W M, et al. Effects on blood pressure of reduced dietary sodium and the dietary approaches to stop hypertension (DASH) diet. *N Engl J Med* 2001; 344(1):3-10.
17. Knowler W C, Barrett-Connor E, Fowler S E, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med* 2002; 346(6):393-403.
18. Furlan A D, Brosseau L, Imamura M, Irvin E. Massage for low back pain (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
19. Guzmán J, Esmail R, Karjalainen K, Malmivaara A, Irvin E, Bombardier C. Multidisciplinary biopsychosocial rehabilitation for chronic low back pain (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
20. Montgomery P, Dennis J. Cognitive behavioural interventions for sleep problems in adults aged 60+ (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
21. King A C, Oman R F, Brassington G S, Bliwise D L, Haskell W L. Moderate intensity exercise and self rated quality of sleep in older adults. *JAMA* 1997; 277:32-37.
22. Hunter M S, Ussher J M, Cariss M, Browne S, Jelley R, Katz M. Medical (fluoxetine) and psychological (cognitive behavioural therapy) treatment for premenstrual dysphoric disorder: a study of treatment processes. *J Psychosom Res* 2002; 53(3):811-817.
23. Lacasse Y, Brosseau L, Milne S, et al. Pulmonary rehabilitation for chronic obstructive pulmonary disease (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
24. Kunik M E, Braun U, Stanley M A, et al. One session cognitive behavioural therapy for elderly patients with chronic obstructive pulmonary disease. *Psychol Med* 2001; 31(4):717-723.
25. Price J R, Couper J. Cognitive behaviour therapy for chronic fatigue syndrome in adults (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
26. Parker M J, Gillespie L D, Gillespie W J. Hip protectors for preventing hip fractures in the elderly (Cochrane Review). In: The Cochrane Library, Issue 1, 2003. Oxford: Update Software, 2003.
27. De Lorgeril M, Salen P, Martin J L, Monjaud I, Delaye J, Mamelle N. Mediterranean diet, traditional risk factors,

and the rate of cardiovascular complications after myocardial infarction: Final report of the Lyon Diet Heart Study. *Circulation* 1999; 99(6):779-785.

28. GISSI-Prevenzione Investigators. Dietary supplementation with n-3 polyunsaturated fatty acids and vitamin E after myocardial infarction: results of the GISSI-Prevenzione trial. *Lancet* 1999; 354:447-455. AFP

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