

Non-Communicable Diseases Watch

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衛生防護中心
Centre for Health Protection



衛生署
Department of Health

Constipation - Find the Way Out

Key Facts

- ※ Constipation is a common bowel complaint in Hong Kong, with reported prevalence of 14.3% among community-dwelling adults, 12.2% among primary school students, and 28.8% among pre-school children.
- ※ Unhealthy lifestyle plays a major role in causing constipation, including unbalanced diet low in dietary fibre but high in animal fats, not drinking enough fluids, lacking in exercise, delaying bowel movements or ignoring the urge to defecate. Constipation can also be attributed to physiological changes (such as pregnancy) or changes in daily routine (such as travel), use of certain medications as well as diseases to which constipation is secondary.
- ※ If constipation is left untreated and lingers for too long, it can lead to complications, including faecal impaction, haemorrhoids, anal fissures and rectal prolapse.

Constipation Prevention Tips

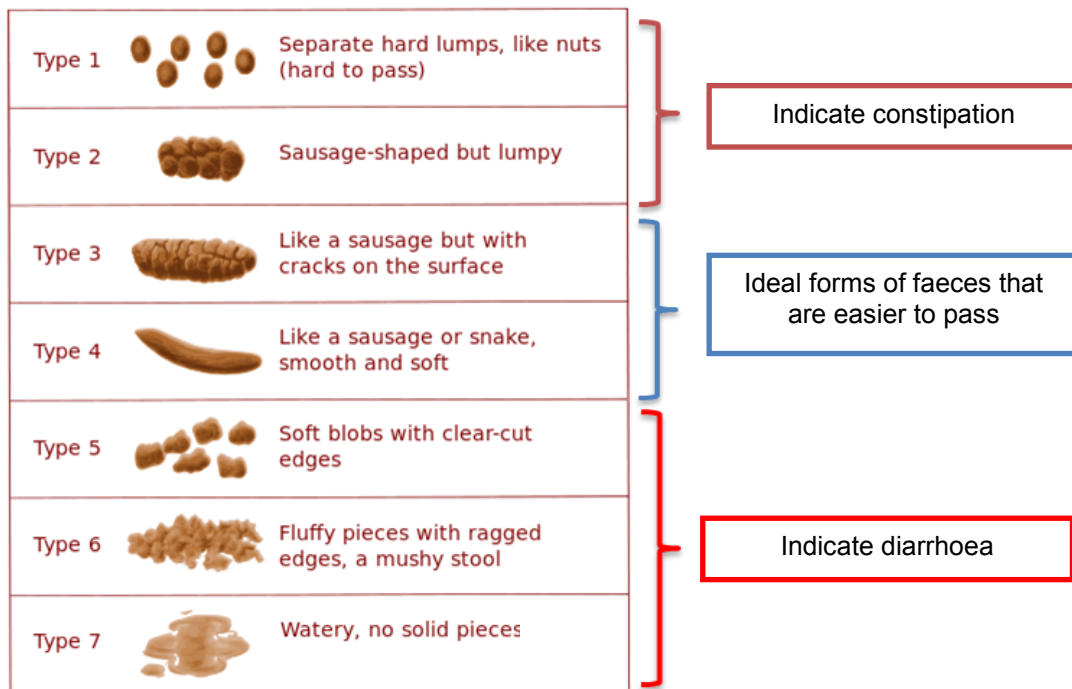
- ※ Preventing constipation should be addressed as if preventing any other health problems — starting with a healthy lifestyle:
 - ※ Eat a balanced diet with sufficient amounts of fibre-rich foods, such as dried beans and oats;
 - ※ Drink adequate amounts of water every day;
 - ※ Do physical activity regularly;
 - ※ Develop a regular bowel habit; do not ignore the urge to defecate;
 - ※ Manage the underlying diseases associated with constipation properly;
 - ※ Use laxatives with caution. Always seek advice from your family doctor or a pharmacist before using.
- ※ Remember, constipation can also be a sign of a serious underlying disease. Consult your family doctor if you have persistent constipation, blood or mucus in faeces, unexplained weight loss, or any major change in bowel habits.

Constipation - Find the Way Out

Constipation generally refers to having difficulty in passing or infrequent passage of faeces (typically fewer than 3 times per week), often accompanied by passing hard and lumpy faeces (Box 1), excessive straining, a feeling of incomplete emptying or obstruction.^{1, 2} While most people

experience occasional short bouts of constipation, for some other people, constipation can be a chronic condition with bowel symptoms persisting for weeks or even months that can significantly affect their daily lives.

Box 1: Bristol Stool Chart^{3,4}



Adapted from Heaton and Lewis, 1997.

Scope of the Problem

Constipation is a common bowel complaint in the general population.² Depending on either subjective self-report or objective symptom-based criteria for defining constipation, the prevalence estimates of constipation ranged from 2.5% to 79.0% in adults and 0.7% to 29.6% in children from published literature worldwide.⁵ Among people aged 15 and above, a systematic review and meta-analysis of 45 studies with over 260 000 subjects demonstrated a global pooled prevalence of chronic idiopathic constipation (a functional disorder without underlying physiological abnormality) of 14%. Overall, the prevalence of chronic idiopathic constipation was higher in women

(17.4%) than in men (9.2%). The prevalence also increased with advancing age from 12.0% among people aged less than 29 years to 17.0% among people aged 60 or above, and with lowering socio-economic status from 14.0% among people with high socio-economic status to 18.0% among people with low socioeconomic status.⁶

Causes of Constipation

Constipation usually occurs when contractions of the colon muscle are sluggish and that the faeces move through the colon too slowly, or if too much water is absorbed from the faeces in the colon. As a result, faeces become hard and dry, causing constipation.

Adult

Unhealthy lifestyle plays a major role in causing constipation, including unbalanced diet low in dietary fibre but high in animal fats, not drinking enough fluids, lacking in exercise, delaying bowel movements or ignoring the urge to defecate. Physiological changes (such as pregnancy) or changes in daily routine (such as travel) can predispose people to constipation. Use of certain medications is also a common cause of constipation, including analgesics, diuretics, iron supplements, antacids that contain calcium or aluminum, anti-depressants, tranquilizers, anticonvulsants, and calcium channel blockers for high blood pressure or heart conditions. The misuse of laxatives may also lead to constipation as it can decrease the colon's natural ability to contract. Furthermore, constipation can be secondary to certain diseases such as neurological or muscular disorders (such as stroke, Parkinson's disease, multiple sclerosis, spinal cord or pelvic nerve injuries), metabolic and endocrine diseases (such as diabetes and hypothyroidism), stress or other psychological comorbidities (such as depression), or other intestinal problems (such as adhesions, diverticulosis and tumour).^{2, 7}

Children

For most children, the causes of constipation are unknown.⁸ Constipation in different age categories can possibly be related to various physical, psychological, social and behavioural factors. For instance, constipation occasionally occurs in infants during the transition from breastfeeding to formula feeding or when solid foods are being introduced. In toddlers and preschoolers, many cases of constipation are due to intentional withholding of faeces which can be a result of problems with toilet training, pain with bowel opening, lack of time for regular toileting or distaste for toilets.^{8, 9} Schoolchildren may feel reluctant to use school toilets due to teachers' attitude, children's personality or peers' influence.¹⁰ Apart from physical or behavioural reasons, stressful life events (such as

parental divorce, severe illness of a family member, failure in an examination, separation from the best friends or being bullied at school) have also been shown to be associated with constipation in children and adolescents.^{8, 11}

Impact of Constipation

Although symptoms of constipation are often intermittent with no lasting health effects, they can be uncomfortable and disturbing to daily life. If constipation is left untreated and lingers for too long, it can lead to complications. For example, as compared with patients with gastroesophageal reflux disease, patients with chronic constipation are 3.2 times as likely to have faecal impaction; 2.1 to 2.5 times as likely to have complications of anus and rectum such as ulcers or anal fissures; 1.6 times as likely to have rectal prolapse; and 1.2 times as likely to have haemorrhoids.¹² A systematic review of 13 studies demonstrated that constipation could negatively affect physical health, social functioning and mental well-being in both adults and children; and the impact on quality of life was significant and comparable with other common chronic conditions such as diabetes, osteoarthritis or chronic allergies.¹³

Constipation consumes substantial health care resources and imposes significant economic impact to society too. In England, hospital admissions due to constipation as a primary diagnosis among people aged over 65 years accounted for over 120 000 bed days with an average hospital-stay of 4.9 days in 2011. Cost of hospital admissions due to constipation equated to 42 million pounds to the National Health Service.¹⁴ In the United States (U.S.), constipation accounted for about 8 million doctor visits annually in 2001 to 2004. The annual direct costs for treating constipation were estimated to exceed 230 million U.S. dollars.¹ Apart from the direct medical costs, indirect costs of constipation include lost time from work or school, restricted activity, and impairment at work because of symptoms.

Recognising the high prevalence rates, adverse implications on the quality of life and economic cost to society, constipation should therefore be regarded as a public health issue that deserves attention.

Local Situation

An earlier population-based survey telephone-interviewed over 3 200 community-dwelling people aged 18-80 in Hong Kong and used symptom-based criteria to define functional constipation, such as changes in the nature of the stool and difficulty in passing stool for a period of at least 3 months (which need not be consecutive) in the past 12 months. Results showed an overall prevalence of constipation to be 14.3% with a female to male ratio of 1.3 : 1. Among the constipated subjects, about one-quarter reported having taken prescribed

medicine (26.2%) and consulted doctors for constipation (25.3%). In contrast, 16.3% of constipated subjects reported doing nothing.¹⁵ Another telephone survey conducted in April 2013 with inclusion of over 2 100 community-dwelling people aged 18-64 found that 4.8% of the subjects reported having constipation symptoms (i.e. having a bowel movement fewer than 3 times per week, straining to pass hard or dry faeces, or having the sensation of incomplete bowel evacuation) ‘all’ or ‘most’ of the time in the 30 days before enumeration. Female (5.5%) and those who had primary education level or below (7.0%) were more likely to report such symptoms. Also, the lower the monthly household income of respondents, the more likely that they had constipation symptoms ‘all’ or ‘most’ of the time in the 30 days prior to the survey (Table 1).¹⁶

Table 1: Rate of community-dwelling people aged 18-64 reported having constipation symptoms ‘all’ or ‘most’ of the time in the past 30 days before enumeration by sex, educational attainment and monthly household income

	Rate
Sex	
Male	4.0%
Female	5.5%
Educational attainment	
Primary or below	7.0%
Lower secondary (F.1-F.3)	5.4%
Upper secondary (F.4-F.6)/Matriculation	5.6%
Tertiary (non-degree, degree or above)	3.4%
Monthly household income	
Below \$8,000	7.8%
\$8,000-\$13,999	6.3%
\$14,000-\$19,999	4.0%
\$20,000-\$39,999	4.9%
\$40,000 or above	3.1%

Source: Behavioural Risk Factor Survey, April 2013.

Among children and adolescents, a territory-wide questionnaire survey involving 2 318 primary school students aged 6-15 years (with a mean of 9 years) in 2011 found that 12.2% of children had constipation. While there were no significant differences in the prevalence between boys and girls and between obese and non-obese children, children aged 6-7 years had the highest prevalence of constipation of 16.8% (Table 2). Students who refused to have bowel movements in school toilets, had night-time sleep of less than 7 hours, had dinners with one or both parents less than 50% of the time, and had higher frequency of fast food consumption reported to have 97%, 87%, 52% and 14% increased risk of constipation compared with their counterparts respectively.¹⁰

Furthermore, another community-based study of 368 healthy children aged 3-5 years and observed that 28.8% of pre-school children had constipation. While both constipated and non-constipated children did not consume adequate dietary fibre, the median daily intakes of fruit were significantly lower among the constipated group (61 g of fruit per day) than that of the non-constipated group (78 g of fruit per day).¹⁷ Of note, 1 serving of fruit approximately equates to 80 g and children aged 3-5 should have at least 1 serving of fruit every day for good health.

Table 2: Rate of constipation among Chinese primary school students by sex, age group and weight status

	Rate
Sex	
Male	11.6%
Female	12.3%
Age group	
6-7	16.8%
8-9	13.0%
10-11	8.5%
12-15	9.8%
Weight status	
Obese	11.5%
Non-obese	11.1%

Source: Tam et al, 2012.

Preventing Constipation

Preventing constipation should be addressed like any other health problems — starting with a healthy lifestyle.

- * **Eat a balanced diet with sufficient dietary fibre** to add more bulk to the faeces and induce bowel movement. Adults should eat at least 5 servings of fruit and vegetables a day and appropriate amounts of other high-fibre foods such as dried beans and oats (Table 3). Parents and carers should encourage children to eat more fruit, vegetables and other high-fibre foods. They should limit giving children processed foods, fast foods, candy and refined carbohydrates (such as white rice, udon and white bread) which are low in dietary fibre. While adolescents and adults should consume at least 25 g of dietary fibre every day, add 5 (g) to a child's age to calculate the amount of dietary fibre required per day. For example, a 6-year-old child would require 11 g of dietary fibre per day.¹⁸

Table 3: Dietary fibre content of selected food items (per 100 g)

Food item	Dietary fibre content
Mushroom, winter, dried	32.3
Ear-fungus, wood-ear, dried	29.9
Kidney beans, all type, raw	24.9
Adzuki beans, mature seeds, raw	12.7
Oats	10.6
Budwheat	10.0
Peanuts, all types, dry roasted	8.0
Sandwich bread, wheat	4.6
Rice, brown, long-grain, raw	3.5
Kiwi, raw	3.0
Green apple, with skin	2.8
Banana	2.6
Egg plant	2.6
Chinese kale	2.3
Chinese flowering cabbage	2.0

Source: Nutrient Information Inquiry System, Centre for Food Safety.

- * **Drink adequate amounts of water every day** to help making faeces softer and easier to pass. Though the amount of fluid needed varies according to climate conditions and level of activities, most adults require about 6 to 8 glasses of fluid a day (including water, plain tea or clear soup) to replenish the water lost. Water is the best option. Parents and carers should make sure children drink enough fluids.
- * **Do physical activity regularly.** Physical activity or exercises (including walking) can promote better digestion and stimulate bowel movement, thereby preventing constipation. Parents should encourage children to get lots of active play to increase bowel activity. As recommended by the World Health Organization, adults should do at least 150 minutes of moderate-intensity physical activity, or 75 minutes of vigorous-intensity physical activity, or equivalent amounts throughout the week. Children and young people aged 5-17 should accumulate at least 60 minutes of moderate-to vigorous-intensity physical activity daily.¹⁹
- * **Develop a regular bowel habit.** Pay attention to the body's needs and do not ignore the urge to defecate. Always take the time to have a complete bowel movement. Parents and carers should teach children to go to toilet immediately when they first feel the urge, and allow them adequate time for bowel opening so they do not feel rushed.
- * **Manage underlying diseases properly** can help relieve constipation. Take an active part in self-care and follow the treatment plans. Some medications however can cause constipation. Discuss with your family doctor and review the medications if indicated.

* **Use laxatives with caution.**

Of note, inappropriate use of laxatives can lead to dependency and other health problems, including damage to intestinal functioning, dehydration, electrolyte imbalance (especially potassium loss from the body which can lead to muscle weakness and affect heart rhythm), or affecting absorption of vitamins and other nutrients. Therefore, it would be wise to consult your family doctor or a pharmacist before buying and using any laxative.

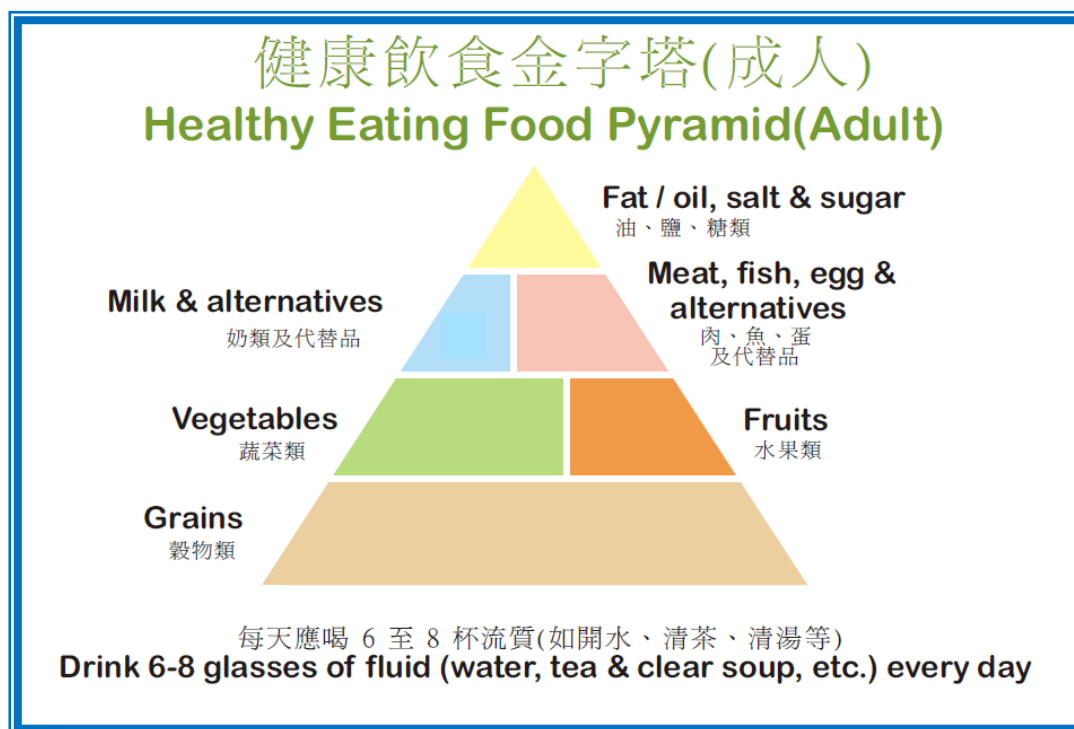
Remember, constipation can cause complications if left untreated or be a sign of a serious underlying disease. Consult your family doctor if you experience persistent constipation, blood or mucus in faeces, unexplained weight loss, or major change in bowel habits. For more information about healthy living, please visit the Central Health Education Unit website of Department of Health at <http://www.cheu.gov.hk>, or call the 24-hour Health Education Hotline at 2833 0111.

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Eat Smart According to the Food Pyramid

The Food Pyramid is a tool that guides people choose a healthy diet. It emphasises eating a variety of food groups in appropriate portions each day to meet the needs of the body, including eat the most grains; eat more fruit and vegetables; eat moderately meat, fish, egg and alternatives as well as milk and alternatives; and eat the least fat/oil, salt and sugar. In addition, drink 6-8 glasses of fluid (water, tea and clear soup, etc.) every day.



The Behavioural Risk Factor Survey April 2013 telephone-interviewed over 2 100 community-dwelling adults aged 18–64 in Hong Kong. Results showed that most of the respondents (89.0%) had seen or heard of the Food Pyramid. Among them, 52.0% of them correctly stated that they should eat ‘grains and cereals’ the most every day; 50.4% correctly stated that they should eat ‘oil, salts and sweets’ the least every day. These findings suggest that there is room for increasing people’s understanding of healthy eating principles.

To learn more about healthy eating, please visit the Department of Health’s Change for Health website <http://www.change4health.gov.hk/en/home/index.html>.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public’s awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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