

## Complete health checkup for adults

### Update on the Preventive Care Checklist Form<sup>®</sup>

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The Preventive Care Checklist Form<sup>®</sup> is an evidenced-based tool for Canadian family physicians to use at complete health checkups of adults. The complete health checkup of adults is a time for family physicians to focus on preventive health care with their patients. In one study, 94% of primary care physicians felt that annual physical examinations provided an opportunity to counsel patients on preventive health services and improve the doctor-patient relationship.<sup>1</sup> Two-thirds of patients responded that the annual physical examination was necessary in addition to regular primary care.<sup>2</sup>

The Preventive Care Checklist Form incorporates recommendations from the Canadian Task Force on Preventive Health Care (CTFPHC) and recommendations from other sources where the Task Force guidelines are not up-to-date or are lacking. Grade-A (good evidence to include) or grade-B (fair evidence to include) recommendations are delineated by bold and italic text, respectively. Recommendations from other guidelines are in plain text. Practice-relevant components, such as functional inquiry and physical examination, are also included in the form. The form was validated in a prospective cluster randomized controlled trial. Results indicated that using the forms improved the number of evidence-based preventive maneuvers delivered per patient by a 22.8% absolute increase and 46.6% relative increase.<sup>3</sup> This means that physicians who used the forms provided almost 50% more recommended preventive services to patients than those who did not use them. Seventy-seven percent of physicians who used the form in the trial indicated they would continue to use it in routine practice.<sup>4</sup>

The Preventive Care Checklist Form was endorsed by the College of Family Physicians of Canada (CFPC) in June 2004. It is available from the CFPC website,<sup>5</sup> with separate forms for men and women, in English and in French. There is also an accompanying explanation sheet. The forms are used in family physicians' offices across the country in hard copy or as part of an electronic medical record.

In order to keep the Preventive Care Checklist Form up-to-date, relevant, and evidence-based, it is necessary that it be periodically updated. In January 2007, the forms were updated with the most recent evidence and re-endorsed through a peer-review process by the CFPC.

### Method

Articles were sought through an Ovid MEDLINE search using the key words *mass screening*, *preventive medicine*, *adult complete health assessment*, and *screening guidelines*. These results were then limited to Canadian articles published after 2003. As this yielded too few results, specific articles were sought using search terms pertinent to the adult complete health checkup, including *colorectal cancer*, *breast cancer*, *hypertension*, *cardiovascular disease*, and *cervical cancer screening*. We also used additional secondary sources, such as articles from the CTFPHC, the Canadian Cancer Society, the National Advisory Committee on Immunization, and the Canadian Medical Association Infobase.

### Result

After reviewing all the aforementioned publications, the Preventive Care Checklist Form was updated to reflect current levels of evidence (**Table 1**<sup>6-19</sup>). The changes based on the CTFPHC recommendations include screening for depression, universal influenza vaccination, screening for diabetes in individuals with hypertension and hyperlipidemia, calcium and vitamin D supplementation for women, and bone density assessment for women 65 years of age and older and those at risk for osteoporosis. The HIV recommendation for high-risk individuals, omitted from the last iteration of the form, has been included. The hormone replacement therapy recommendation has been removed based on current recommendations.

Recommendations where the CTFPHC recommendations were lacking or not up-to-date are also presented in **Table 1**<sup>6-19</sup> and explained below.

### Acellular pertussis vaccine

Pertussis is the least well-controlled vaccine-preventable illness.<sup>20,21</sup> The incidence of pertussis has increased since 1990, with the highest rate of increase seen in adults and adolescents. The increase is attributed to waning immunity.<sup>20</sup> The National Advisory Committee



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on Immunization recommends the administration of a single dose of tetanus, diphtheria, and acellular pertussis vaccine to all adults in place of a tetanus-diphtheria booster.<sup>14,22</sup>

### Human papillomavirus vaccine

There is a well-established causal relationship between cervical cancer and infection by multiple types of human papillomavirus.<sup>23,24</sup> The National Advisory Committee on

**Table 1. Updated 2007 recommendations included in the Preventive Care Checklist Form®**

CONDITION	RECOMMENDATION	GRADE OF RECOMMENDATION*	CHANGES TO THE PREVENTIVE CARE CHECKLIST FORM	SOURCE OF RECOMMENDATION
<b>Functional inquiry</b>				
Depression <sup>6</sup>	Screen adults in the general population for depression if there are integrated programs for feedback to patients and access to case management or mental health care A positive test result for this screening is a positive response to one or both questions: • Over the past 2 weeks, have you felt little pleasure in doing things? • Over the past 2 weeks, have you felt down, depressed, or hopeless?	B	Under Mental Health, <i>Depression Screen</i> will be added in italics	CTFPHC
<b>Education and counseling</b>				
Osteoporosis <sup>7</sup>	Calcium and vitamin D supplementation alone prevents osteoporotic fractures in postmenopausal women without documented osteoporosis	B	Calcium and vitamin D recommendations will be in italics on the female form	CTFPHC
HRT <sup>8,9</sup>	Do not use HRT for the primary prevention of myocardial infarction and death from cardiovascular disease in perimenopausal women and chronic disease in menopausal women	D	The item relating to HRT for women on the previous form will be deleted owing to evidence of harm	CTFPHC
<b>Physical examination</b>				
WC <sup>10</sup>	A WC > 102 cm (40 in) for men and > 88 cm (35 in) for women is associated with increased risk of type 2 diabetes, coronary artery disease, and hypertension The WC measurement should be used among those with a body mass index between 18.5 and 34.9 to identify additional risk		WC information will appear in plain text	Health Canada, WHO
WHR <sup>11</sup>	A WHR > 1.0 for men and > 0.85 for women is considered a marker of abdominal obesity		WHR information will appear in plain text	WHO
<b>Labs or investigations</b>				
Colonoscopy <sup>12</sup>	Screen for colon cancer in all adults older than 50 y Colonoscopy every 10 y can be considered as a screening option, though controlled studies of efficacy are lacking		Colonoscopy recommendations will appear in plain text with sigmoidoscopy and hemoccult multiphase testing for colon cancer screening	Canadian Association of Gastroenterology, Canadian Digestive Health Foundation
HIV testing <sup>13</sup>	Offer screening to asymptomatic persons at high risk: men who have sex with men, sex workers, injection drug users, those with an STI, sexual contacts of HIV-positive persons, and those from countries with a high prevalence rate of HIV infection	A	HIV testing recommendations will appear in bold text Testing is recommended for high-risk individuals as part of an STI screen	CTFPHC
HB <sup>14,15</sup>	Routine pre-immunization serologic testing for HB is recommended for people at high risk of infection		HB testing recommendations will appear in plain text Testing is recommended for high-risk individuals	NACI

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CONDITION	RECOMMENDATION	GRADE OF RECOMMENDATION*	CHANGES TO THE PREVENTIVE CARE CHECKLIST FORM	SOURCE OF RECOMMENDATION
Type 2 diabetes mellitus <sup>16</sup>	Screen adults with hypertension or hyperlipidemia for type 2 diabetes using the FBG to prevent cardiovascular events and death	B	The FBG recommendations will appear in italic text Recommendations are for patients with hypertension or hyperlipidemia; Canadian Diabetes Association guidelines <sup>17</sup> will be used for adults 40 y and older or those with other risk factors	CTFPHC
Osteoporosis <sup>7</sup>	Screen postmenopausal women by DEXA if they are 65 y and older, or have a history of previous fracture, or have an Osteoporosis Risk Assessment Instrument score $\geq 9$ , or have a Simple Calculated Osteoporosis Risk Estimation score $\geq 6$ to prevent fragility fractures	B	The recommendation for bone mineral density using DEXA will be in italics on the female form	CTFPHC
<b>Immunizations</b>				
Influenza <sup>14,18</sup>	Support yearly influenza vaccination in healthy adults; this recommendation also concurs with the recommendation by NACI	A	Annual influenza vaccination for all adults will be added in bold text	CTFPHC
Pertussis <sup>14</sup>	Administer a single dose of the adolescent or adult formulation of acellular pertussis vaccine to adults who have not received a dose of acellular pertussis vaccine		Acellular pertussis vaccine recommendations will appear in plain text	NACI
Cervical cancer <sup>19</sup>	HPV vaccine is recommended for girls 9 to 13 y of age Female populations between 14 and 26 y of age would benefit from the vaccine even if they are already sexually active		HPV vaccine recommendations will appear in plain text	NACI

CTFPHC—Canadian Task Force on Preventive Health Care, DEXA—dual-energy x-ray absorptiometry, FBG—fasting blood glucose, HB—hepatitis B, HPV—human papillomavirus, HRT—hormone replacement therapy, NACI—National Advisory Committee on Immunization, STI—sexually transmitted infection, WC—waist circumference, WHO—World Health Organization, WHR—waist-to-hip ratio.

\*Grade-A recommendation (good evidence to include), grade-B recommendation (fair evidence to include), grade-D recommendation (fair evidence to exclude).

Immunization has recommended the human papilloma-virus vaccine for girls aged 9 to 13 years.

The recommendation also states that female populations between 14 and 26 years of age can benefit from the vaccine, even if they are or have been sexually active.<sup>19</sup>

### Risk factor stratification for obesity

The body mass index is often used to indicate total fat content. The waist-to-hip ratio and the waist circumference, on the other hand, are considered measures of central or abdominal obesity, which can be a better indicator of obesity-related diseases.<sup>11</sup> A high waist-to-hip ratio is defined as greater than 1.0 in men and greater than 0.85 in women,<sup>11</sup> and has been shown to be strongly associated with the risk of myocardial infarction.<sup>25</sup> Waist circumference, defined as the circumference measured at the midpoint between the lower border of the rib cage and the iliac crest, is a more practical method to assess

abdominal obesity.<sup>11</sup> Measurements greater than 102 cm (40 in) for men and 88 cm (35 in) for women are considered high-risk indicators for diabetes, coronary artery disease, and dyslipidemia.<sup>26</sup> Health Canada has recommended waist circumference as further stratification of risk in both men and women with a body mass index between 18.5 and 34.9.<sup>10,26</sup>

### Colonoscopy for colorectal cancer screening

Colonoscopy has been advocated by some as an alternate screening modality for colorectal cancer<sup>27</sup> and some primary care practitioners appear to prefer it.<sup>28,29</sup> Colonoscopy has been shown to detect advanced neoplasia, which can be missed with sigmoidoscopy alone in asymptomatic men and women.<sup>30,31</sup> In the Veterans Affairs Cooperative Study, asymptomatic adults from 50 to 75 years of age from 13 centres were screened.<sup>32</sup> Participants were screened for advanced neoplasia (defined as an adenoma 10 mm or greater,

a villous adenoma, an adenoma with high-grade dysplasia, or invasive cancer), with rehydrated stool specimens collected on 3 consecutive days followed by a colonoscopy. Sigmoidoscopy was defined as the examination of the rectum and sigmoid during colonoscopy. A subgroup analysis of the 2885 participants who returned the specimens for fecal occult blood testing showed that a colonoscopy can increase the detection rate of colorectal cancer by 24% when compared with the combination of one-time fecal occult blood testing and sigmoidoscopy.<sup>32</sup>

Both the CTFPHC and the United States Preventive Services Task Force state there is insufficient evidence to recommend for or against using colonoscopy as a screening test for colorectal cancer.<sup>33,34</sup> The Canadian Association of Gastroenterology recommends having a colonoscopy every 10 years as a viable screening option for individuals 50 years of age and older who are at average risk for colorectal cancer. In individuals with a family history of adenomatous polyps or colorectal cancer (in a first-degree relative over the age of 60 or 2 or more second-degree relatives), colonoscopy is an option beginning at age 40. If those relatives are younger than 60, a colonoscopic screening is recommended every 5 years beginning either at age 40 or 10 years before the age of the youngest case.<sup>12</sup>

## Hepatitis B screening

Hepatitis B virus infection has declined in incidence because of the increased use of the hepatitis B vaccine. It has virtually disappeared in cohorts offered universal vaccination; however, a substantial proportion of the population is still at high risk for acquiring the infection.<sup>14</sup> This includes those who have high-risk sexual activity or unprotected sex, such as individuals having unprotected sex with new partners or those who have had more than 1 sexual partner in the past 6 months, individuals with a history of sexually

transmitted infections, and men having sex with men. High-risk groups should be screened for hepatitis B infection<sup>15</sup> as part of a sexually transmitted disease test, which includes testing for chlamydia, gonorrhea, HIV, and syphilis.

## Vitamin D to decrease cancer

When the 2007 updates were being finalized, the Canadian Cancer Society announced its recommendation for increased vitamin D supplementation for the prevention of cancer. This recommendation has not been included in the Preventive Care Checklist Form because the clinically important level of vitamin D, as it relates to cancer while preventing toxicity, requires further investigation.<sup>35</sup>

## Conclusion

Before the Preventive Care Checklist Form there was no standardized evidence-based form that family physicians in Canada could use for a complete health checkup for adults. In order to remain relevant, the form must be regularly updated to incorporate new evidence for or against certain preventive health maneuvers. The Preventive Care Checklist Form was first endorsed by the CFPC in 2004 and was recently updated in 2007 using relevant literature. The 2007 form provides family physicians with an updated, user-friendly tool to implement best practices in preventive health care. It is meant to be used during complete health checkups for adults who are at average risk. Although the form is comprehensive, physicians should use their discretion and clinical knowledge to determine what maneuvers are required for individual patients. ✱

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## Competing interests

None declared

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