



## FMWC Declares First National HPV Prevention Week October 1-7, 2017

The Federation of Medical Women of Canada (FMWC) is a national organization, dedicated to advocating for and improving management of women's health issues that also affect the broader community. HPV transmission and infection is an issue that pertains to all Canadians, both male and female.

The FMWC is declaring a national **HPV Prevention Week** to be held in perpetuity the first week of October every year, to foster an informed public discourse amongst Canadians on preventing HPV-related diseases and cancers.

### HPV Facts

- Human papilloma virus is a group of more than 100 different types, with many high-risk types that pose an increased risk for oncogenicity.
- There are over 100 HPV types, of which at least 40 types infect the genital tract. Although many individuals clear an HPV infection over time, persistent infection with HPV can result in malignancy.
- Almost all incidences of cervical cancer are preceded by a persistent HPV infection with a high-risk HPV type.
- HPV is also associated with 80-90% of anal cancers and up to 72% of oropharyngeal cancers among other cancers of the reproductive tract, such as the vulvar, vagina, and penis<sup>1,2</sup>.
- Human papilloma virus (HPV) is the most common viral infection of the anogenital tract, and can cause the development of pre-cancerous and cancerous lesions in both females and males.
- HPV is linked to the development of cervical cancer which is the 4<sup>th</sup> leading cause of death in all females<sup>3,4,5</sup>.
- The International Agency for Research on Cancer (IARC) has classified 12 types of HPV as known carcinogens: HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59)<sup>6</sup>. Of these, HPV types 16 and 18 account for 70% of cervical cancer cases worldwide<sup>7,8,9</sup> and HPV types 16, 18, 31, 33, 45, 52, and 58 account for 90% of cervical cancer cases.
- Accordingly, HPV2 and HPV4 vaccines offer protection for up to 70% of cervical cancer cases, while the HPV9 vaccine offers protection for up to 90% of all cervical cancer cases.

<sup>1</sup> Statistics Canada. Canadian Vital Statistics – Death Database (CVS: D). Available at: [http://www23.statcan.gc.ca/imdb/p25V.pl?Function=getSurvey\(=en&db=imdb&adm=8&dis=2&SDDS=3233](http://www23.statcan.gc.ca/imdb/p25V.pl?Function=getSurvey(=en&db=imdb&adm=8&dis=2&SDDS=3233)

<sup>2</sup> Mehanna et al. Prevalence of human papillomavirus in oropharyngeal and nonoropharyngeal head and neck cancer – systematic review and meta-analysis of trends by time and region. *Head neck*. 2013; 35(5): 747-55.

<sup>3</sup> Human Papillomavirus and Related Diseases Report, WORLD. 15 December 2016. (estimates for 2012)

<sup>4</sup> World Health Organization. Human papillomavirus vaccines: WHO position paper, October 2014, 43(89).

<sup>5</sup> Canadian Cancer Society. Media backgrounder #1: HPV-associated cancers. October 2016: <https://www.cancer.ca/en/about-us/for-media/media-releases/national/2016/cancer-statistics-backgrounder-1/?region=on>

<sup>6</sup> Canadian Cancer Statistics 2016. Special topic: HPV-associated cancers. Canadian Cancer Society, Government of Canada. October 2016.

<sup>7</sup> Human Papillomavirus and Related Diseases Report, WORLD. 15 December 2016. (estimates for 2012)

<sup>8</sup> World Health Organization. Human papillomavirus vaccines: WHO position paper, October 2014, 43(89).

<sup>9</sup> Canadian Cancer Society. Media backgrounder #1: HPV-associated cancers. October 2016: <https://www.cancer.ca/en/about-us/for-media/media-releases/national/2016/cancer-statistics-backgrounder-1/?region=on>

- Low risk, non-oncogenic, HPV types 6 and 11 pose a lower risk for cancer but cause a majority (up to 90%) of genital warts<sup>10</sup>.
- Regardless of where HPV presents, there is currently no cure for an HPV infection. Prophylactic vaccines remain the most effective way to prevent HPV infection and HPV-related diseases.

### The HPV Vaccines

The first prophylactic vaccine was available in Canada in 2006. In Canada, there are currently three authorized vaccines: a quadrivalent vaccine, Gardasil (HPV4), a bivalent vaccine, Cervarix (HPV2), and a 9-valent vaccine, Gardasil (HPV9) released in 2006, 2010 and 2015, respectively. The vaccines have been authorized to be given as 3 separate 0.5mL doses (or 2 separate doses in younger individuals)<sup>11,12</sup>:

*Table 1: Comparison of the HPV Vaccines Authorized for Use in Canada (adapted and modified from<sup>26</sup>).*

	Cervarix (HPV2)	Gardasil (HPV4)	Gardasil 9 (HPV9)
Immunogens (HPV types)	16, 18	6, 11, 16, 18	6, 11, 16, 18, 31, 33, 45, 52, 58
Manufacturer	GlaxoSmithKline Inc.	Merck Canada Inc.	Merck Canada Inc.
Authorization	Females 9-45 years	Females 9-45 years Males 9-26 years	Females 9-45 years Males 9-26 years
Dosing Schedule	0, 1, 6 months (or 0, 6 months in girls 9-14 years of age)	0, 2, 6 months (or 0, 6 or 0, 12 months in individuals 9-13 years of age)	0, 2, 6 months (or 0, 6-12 months in individuals 9-14 years of age)

Gardasil and Gardasil 9 have been employed in over 130 countries delivering more than 251 million doses globally<sup>13</sup>. Over the past 8 years, HPV vaccines have been found to be safe and effective in reducing HPV infections and pre-cancers which can lead to anogenital cancers in both males and females<sup>14</sup>.

NACI currently makes the following recommendations:

- HPV2, HPV4, or HPV9 vaccine is recommended for females aged 9 to 26 years, and may be used in females over 26 years of age who have not been previously vaccinated or who have not completed the series.
- HPV4 or HPV9 is recommended for males aged 9 to 26 years, and may be used in males over 26 years of age who have not been previously vaccinated or who have not completed the series.
- HPV2 vaccine is not recommended for males.

<sup>10</sup> World Health Organization. Human papillomavirus vaccines: WHO position paper, October 2014, 43(89).

<sup>11</sup> National Advisory Committee on Immunization (NACI). Update on the recommended Human Papillomavirus (HPV) vaccine immunization schedule. An advisory Committee Statement (ACS). February 2015; Catalogue Number: HP40-128/204E-PDF.

<sup>12</sup> National Advisory Committee on Immunization (NACI). Updated recommendations on Human Papillomavirus (HPV) vaccines: 9-valent HPV vaccine and clarification of minimum intervals between doses in the HPV immunization schedule. An advisory Committee Statement (ACS). July 2016. Public Health Agency of Canada.

<sup>13</sup> Merck Canada, May 2017.

<sup>14</sup> The society of Obstetricians and Gynaecologists of Canada. Joint Position Statement: Safety of Gardasil HPV Vaccine. January 2017: [https://sogc.org/files/HPVvaccinePositionStatement\\_Final3.pdf](https://sogc.org/files/HPVvaccinePositionStatement_Final3.pdf)

- HPV2 (in immunocompetent females 9 to 14 years of age), HPV4 or HPV9 (in immunocompetent females or males 9 to 14 years of age) may be administered using either a 2-dose or 3-dose. For a 2 dose schedule, two separate doses should be administered at months 0 and 6-12.
- Any immunocompromised individuals, immunocompetent HIV-infected individuals, or individuals who have not received any dose of HPV vaccine by 15 years of age should continue to receive three doses of the HPV vaccine.
- The minimum interval between the first and last doses in either a 2-dose or 3-dose schedule is 6 months (24 weeks).
- HPV vaccine is recommended for the prevention of cervical cancer, genital warts, perianal cancer, penile cancer, as well as associated cancers and neoplasias<sup>15</sup>. HPV vaccination will benefit individuals who are already sexually active, with or without previous pap abnormalities, cervical cancer, genital warts, or HPV infection<sup>16</sup>.
- HPV vaccine is not recommended for males/females under 9 years of age or pregnant women.
- There is insufficient evidence to recommend re-immunization with HPV9 vaccine of individuals who have completed an immunization series with another HPV vaccine. While not recommended at a population level, individuals who have been vaccinated with HPV4 vaccine and wish to take advantage of the additional protection provided by HPV9 vaccine may be vaccinated with HPV9 vaccine<sup>17</sup>.

As of 2009, all provinces and territories have implemented an HPV immunization schedule for grade-school girls. However, immunization programs across the country are not uniform and boys are not included in all publicly funded programs. The current HPV immunization program status across all provinces and territories is summarized in table 2. The provision of the vaccines is determined by the public health department of each province/ territory and thus varies across the country.

*Table 2: Summary of HPV immunization programs across the country, as of July 2017. Provinces/ Territories shaded in grey do not currently offer HPV vaccination to boys as part of their publicly funded immunization program. Adapted and updated from<sup>10</sup>*

<sup>15</sup> National Advisory Committee on Immunization (NACI). Update on the recommended Human Papillomavirus (HPV) vaccine immunization schedule. An advisory Committee Statement (ACS). February 2015; Catalogue Number: HP40-128/204E-PDF.

<sup>16</sup> National Advisory Committee on Immunization (NACI). Update on Human Papillomavirus (HPV) Vaccines. An advisory Committee Statement (ACS). Canada Communicable Disease Report. January 2012; Volume 38, ACS-1: 1-62.

<sup>17</sup> National Advisory Committee on Immunization (NACI). Updated recommendations on Human Papillomavirus (HPV) vaccines: 9-valent HPV vaccine and clarification of minimum intervals between doses in the HPV immunization schedule. An advisory Committee Statement (ACS). July 2016. Public Health Agency of Canada.

Province/ Territory	Routine 3-dose Schedule (0, 2 and 6 months)	Demographic	Vaccine	Date of Implementation
British Columbia	Grade 6 (2-dose)	Females and Males	HPV9	Sept 2008 (F) Expected Sept 2017 (M)
Alberta	Grade 5	Females and Males	HPV9	Sept 2008 (F) Sept 2014 (M)
Saskatchewan	Grade 6 (2-dose)	Females and Males	HPV4	Sept 2008 (F) Expected Fall 2017 (M)
Manitoba	Grade 6 (2-dose)	Females and Males	HPV4	Sept 2008 (F) Sept 2016 (M)
Ontario	Grade 7 (2-dose)	Females and Males	HPV4	Sept 2007 (F) Sept 2016 (M)
Quebec	Grade 4 (2-dose)	Females and Males	HPV9	Sept 2008 (F) Sept 2016 (M)
New Brunswick	Grade 7 (2-dose)	Females and Males	HPV4	Sept 2008 (F) Expected Sept 2017 (M)
Nova Scotia	Grade 7 (2-dose)	Females and Males	HPV4	Sept 2007 (F) Sept 2015 (M)
Prince Edward Island	Grade 6 (2-dose)	Females and Males	HPV4	Sept 2007 (F) Sept 2013 (M)
Newfoundland and Labrador	Grade 6 (2-dose)	Females	HPV4	Sept 2007 Expected Fall 2017 (M)
Northwest Territories	Grade 4 (2-dose)	Females and Males	HPV4	Expected Fall 2017
Yukon	Grade 6 (2-dose)	Females and Males	HPV4	Expected Fall 2017
Nunavut	Grade 6	Females and Males	HPV4	Expected Fall 2017

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