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## HPV Vaccination: Overcoming Parental and Physician Impediments

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In this issue of *American Family Physician*, Ackerman and Serrano provide a concise and well-referenced summary of the recommended immunizations for children and adolescents.<sup>1</sup> The immunization schedule is designed to create the best immunologic response and achieve maximal disease prevention. However, full adherence to the schedule is jeopardized by the fears of some parents and physicians who have concerns about the safety of and need for certain immunizations, and subsequently refuse or delay vaccination.

The acceptance rate for most immunizations is high (80% to 90%), especially for more well-established vaccines.<sup>2</sup> However, the acceptance rate is much lower for human papillomavirus (HPV) vaccine, with 57.3% of females and 34.6% of males initiating the series<sup>2</sup> and only 38% of females and 14% of males receiving all three doses.<sup>3</sup> Because HPV vaccination has the potential to significantly reduce rates of cervical and oropharyngeal cancers,<sup>4</sup> the low immunization rate is a public health failure. Which parental and physician impediments prevent the HPV vaccination rate from reaching appropriate levels?

Some parents are concerned that the HPV vaccine is unsafe or that administration may encourage sexual activity, thereby increasing their child's risk of a sexually transmitted infection (STI).<sup>5,6</sup> Parental safety concerns about the HPV vaccine increased from 4.5% in 2008 to 16% in 2010,<sup>7</sup> although the reported adverse effects have been minor (e.g., injection site reactions, syncope, dizziness, nausea, headache).<sup>3</sup> Studies have shown that adolescents who receive the HPV vaccine do not initiate sexual activity earlier,<sup>8,9</sup> nor is their risk of acquiring an STI increased.<sup>10</sup>

Some parents and physicians think the HPV vaccine should be delayed until the child is likely to have initiated sexual activity or until a visit when the child is not receiving other adolescent vaccinations.<sup>11</sup> This approach is problematic; to be effective, the HPV vaccine must be given before exposure to covered serotypes. However, parents often do not know when their child has initiated sexual activity.<sup>12</sup> Additionally, vaccines that are delayed are often never received because they are forgotten or no subsequent physician visit occurs.<sup>11</sup>

Impediments originating with physicians are multifactorial. Some have been reluctant to recommend HPV vaccination at the suggested age based on information obtained by profiling their patients about sexual activity.<sup>5</sup> Some do not see the need for HPV vaccination because cervical cancer screening, detection, and treatment are effective.<sup>11</sup> Some give parents the perception that the vaccine is optional<sup>11</sup>; in fact, many parents report that their physician never offered the vaccine.<sup>11</sup>

To improve acceptance of immunizations, physicians must be knowledgeable about vaccine safety and effectiveness, and non-judgmental about parents' beliefs. The non-judgmental approach does not condemn parents, nor does it minimize their concerns. Although randomized trials have not shown significant improvement in vaccine acceptance after face-to-face discussions between physicians and parents,<sup>13</sup> listening to the parents' concerns and giving evidence-based answers is a first step in helping parents understand the need for vaccination. An unequivocal recommendation from the physician is associated with improved acceptance of vaccinations by hesitant parents<sup>14</sup>; a recommendation from their child's physician is the reason most often given by parents who agree to immunizations.<sup>15,16</sup> Rather than focusing too much attention on the HPV vaccine, it may be better to address it in the same routine, matter-of-fact way that other vaccines are recommended.<sup>17</sup> ►

Specific approaches have been shown to improve HPV vaccination rates.<sup>18</sup> Instead of discussing the vaccine as a means of STI prevention, physicians can present it as a way to prevent cervical cancer in women and oropharyngeal cancer in men. They can mention that immunologic response is greater in younger adolescents, so earlier immunization is prudent.<sup>19</sup> Physicians should encourage HPV vaccine administration at the same time that other adolescent vaccines are given. They should review immunization status at every visit, and administer the HPV vaccine at any time—including during sick visits.<sup>18</sup> It is estimated that if these procedures had been followed, the HPV vaccination rate could have reached 91.3% for 13-year-old girls who were born in 2000.<sup>3</sup>

Several other strategies may be helpful. Finding a way to address parental social networks has been beneficial.<sup>7</sup> Hesitant parents may respond to the CASE method: the physician *corroborates* the parents' concerns, talks *about* his or her own experience with the vaccine, summarizes the *science* about vaccine effectiveness and safety, and *explains* advice in terms of the child's health.<sup>20</sup>

One other barrier may be more difficult to overcome: cost. The older HPV vaccines, Cervarix and Gardasil, cost about \$500 for three doses; the new nonavalent vaccine, Gardasil 9, currently costs about \$1,100 for three doses.<sup>21</sup>

We have an opportunity to significantly reduce rates of cervical and oropharyngeal cancers with a safe and effective HPV vaccine. We should listen and address parental concerns, but also strongly recommend all childhood immunizations and use every opportunity to administer them.

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