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### El origen del narcisismo en niños

*Origins of narcissism in children*

**Brummelman E, Thomaes S, Nelemans SA, Castro BO, Overbeek G, Bushman BJ.**

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<http://www.pnas.org/content/112/12/3659.abstract>

Los individuos narcisistas se sienten superiores a los demás, fantasean con éxitos personales, y creen que merecen un tratamiento especial. Cuando se sienten humillados, a menudo manifiestan agresividad o violencia. Se está observando que los niveles de narcisismo han ido en aumento entre la juventud occidental. Lamentablemente, poco se sabe acerca de los orígenes del narcisismo. Dicho conocimiento es importante para poder diseñar intervenciones para reducir el desarrollo del narcisista. En este estudio según los autores se presenta la primera evidencia longitudinal prospectiva sobre los orígenes del narcisismo en los niños. Se compararon dos perspectivas: la teoría del aprendizaje social (postulando que el narcisismo es cultivado por la sobrevaloración de los padres) y la teoría psicoanalítica (postulando que el narcisismo se cultiva por falta de calor de los padres). El estudio se llevó a cabo en la infancia tardía (7-12 años), cuando las diferencias individuales en el narcisismo primero emergen. Se realizaron controles cada 6 meses en 565 niños y sus padres, que informaron sobre la conducta narcisista en el niño, su autoestima, la sobrevaloración de los padres, y la calidez de los mismos. Los resultados apoyan la teoría del aprendizaje social y contradicen la teoría psicoanalítica: el narcisismo se podía predecir por la sobrevaloración de los padres, no por falta de calor de los padres. Por tanto los niños parecen adquirir el narcisismo, en parte, mediante la internalización del niño de puntos de visitas inflados o sobrevalorados de los padres respecto a su hijo (por ej., “Yo soy superior a los demás” y “Tengo derecho a privilegios”). Como prueba de la especificidad de este hallazgo, la autoestima se predijo por el calor de los padres, no por la sobrevaloración de los padres. Estos resultados muestran que el narcisismo está parcialmente arraigado en las experiencias tempranas de socialización, y sugieren que las intervenciones de entrenamiento para padres pueden ayudar a reducir el desarrollo narcisista y consecuentemente reducir sus costos para la sociedad.

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## Declaración de posicionamiento por parte de la Academia Americana de Neurología sobre el uso médico de marihuana para los trastornos neurológicos

*Position Statement: Use of Medical Marijuana for Neurologic Disorders*

La Academia Americana de Neurología (AAN) tiene como objetivo garantizar la mejor atención posible de pacientes con todo tipo de trastornos neurológicos. Es importante para la AAN tener una posición oficial sobre los productos a base de marihuana. Debido a que existe una legislación actual de marihuana medicinal, que promueve el uso de productos a base de marihuana para tratar diversas afecciones neurológicas, la ANN ha realizado una declaración oficial sobre su posicionamiento sobre el uso médico de marihuana para los trastornos neurológicos. A continuación se citan algunos de sus pronunciamientos:

- Aunque la AAN reconoce un posible uso terapéutico potencial para los productos a base de marihuana para tratar algunas afecciones neurológicas, la evidencia es insuficiente para sacar conclusiones definitivas sobre la eficacia de los productos a base de marihuana para muchos trastornos neurológicos.
- La AAN recomienda estudios de investigación rigurosos para evaluar la eficacia y seguridad a largo plazo.
- Debido a la necesidad de estos estudios, por el momento la AAN no aboga por la legalización de productos a base de marihuana para su uso en trastornos neurológicos.
- La toxicidad de los productos a base de marihuana puede potencialmente ser mayor en pacientes con trastornos neurológicos subyacentes, y/o en los niños porque sus cerebros aún están en desarrollo.
- Los resultados de ensayos clínicos con preparados estandarizados no deben ser generalizados a productos de cannabis no regulados o estandarizados.
- Según un reciente guía basada en la evidencia de la ANN, formas orales y bucales específicos de cannabis pueden aliviar algunos de los síntomas en pacientes con esclerosis múltiple.
- Según una revisión sistemática efectuada por la ANN, los extractos orales de cannabis son probablemente ineficaces para reducir movimientos involuntarios anormales levodopa-inducidos en la enfermedad de Parkinson.
- No hay evidencia para apoyar el uso de cannabis fumado.
- Los efectos adversos del cannabis en los estudios clínicos incluyen náuseas, mareos, cambios de humor, alucinaciones, ideación suicida, sensación de intoxicación, mayor debilidad y, raramente, convulsiones.
- La seguridad del uso a largo plazo de cannabis no está claro, con cierta evidencia de la tolerancia y dependencia asociada al consumo excesivo y a largo plazo.
- Hay evidencia que sugiere que el consumo crónico de cannabis recreativo puede afectar la memoria, concentración y funciones ejecutivas, con persistencia desconocido de estos efectos después de suspender el uso de la marihuana, y con desconocimiento del posible daño permanente sobre el sistema nervioso.
- Es posible que trastornos neurológicos subyacentes pueden aumentar la vulnerabilidad a los efectos adversos psicopatológicos y cognitivos de los productos a base de marihuana, especialmente en niños.

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## Position Statement: Use of Medical Marijuana for Neurologic Disorders

### Background Information

The American Academy of Neurology (AAN) is a professional organization of over 28,000 practicing neurologists and neuroscientists with a deep and abiding interest in assuring the best possible care of patients with all types of neurologic disorders. With officials at state and federal levels adopting policies regarding the use of medical marijuana, it is important for the AAN to have an official position on the issue that can assist policymakers.

### Description of the Issue

In this position statement, the term "marijuana-based products" refers both to marijuana and to products derived from it. The current medical marijuana legislation being passed by policymakers across the country, which promotes marijuana-based products as treatment options for various neurologic disorders, is not supported by high-level medical research. In addition, there is concern regarding the safety of marijuana-based products, especially for long term use in patients with disorders of the nervous system. The interaction of these compounds with prescription medications is also unknown. Therefore, further research is urgently needed to determine the safety and medical benefit of various forms of marijuana in neurologic disorders, especially those where anecdotal evidence is available. Anecdotal evidence may engender public support for the use of these products but such evidence must be substantiated by rigorous research, which will in turn inform legislative policy.

### The AAN's Position

The AAN supports all efforts to conduct rigorous research to evaluate the long-term safety and effectiveness of marijuana-based products. The AAN, for research purposes, requests the reclassification of marijuana-based products from their current Schedule 1 status so as to improve access for study of marijuana or cannabinoids under IRB-approved research protocols. The AAN does not advocate for the legalization of marijuana-based products for use in neurologic disorders at this time, as further research is needed to determine the benefits and safety of such products. This is of paramount importance when marijuana-based products are used in patients with underlying neurologic disorders, or in children whose developing brains may be more vulnerable to the toxic effects of marijuana.


The AAN recognizes that there may be potential use for these agents in the treatment of some neurologic disorders.<sup>1</sup> However, there is not sufficient evidence to make any definitive conclusions regarding the effectiveness of marijuana-based products for many neurologic conditions.<sup>2</sup> Many of the cannabis preparations used in studies are not available in the United States. It is not appropriate to extrapolate the results of trials of standardized preparations to other, non-standardized, non-regulated cannabis products

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which may be commercially available in states with laws supporting the use of medical marijuana. Effectiveness of a non-standardized product is not equal to that of standardized products that are studied in clinical trials. Additionally, most currently available marijuana-based products are not regulated by any agency and may not contain the products mentioned by labeling. Quality control is therefore impossible, raising further safety questions. Each product and formulation of cannabis should demonstrate safety and effectiveness via scientific study similar to the process required by the Food and Drug Administration (FDA).

### Rationale

Currently, the federal government classifies marijuana products as a Schedule I drug, defined as having no currently accepted medical use and a high potential for abuse. Therefore, state law does not protect an individual who prescribes such products from federal prosecution unless the individual obtains a Schedule I license from the Drug Enforcement Agency (DEA). Some states have enacted bills allowing medical providers to prescribe marijuana-based products, but only if they contain non-psychoactive ingredients. Reclassification by the DEA will expedite future research on marijuana-based products as it will reduce barriers to study participation by investigators who do not possess a schedule I license.

### History and Basic Science

Use of marijuana-based products to treat neurologic disorders dates back to the 1800s.<sup>2</sup> Marijuana is derived from the plant *Cannabis sativa*, which contains over 60 different pharmacologically active compounds referred to as cannabinoids.<sup>3</sup> Delta-9-tetrahydrocannabinol (THC) is the major psychoactive compound which causes the euphoric effect. Other cannabinoid compounds such as cannabitol and cannabidiol (CBD) are not known to have psychoactive properties. Cannabinoid compounds have the potential for therapeutic benefit in a number of neurologic diseases. However, the psychoactive effects can acutely alter a patient's cognition and inhibit normal functioning. Long-term effects on learning and memory may occur. Thus, from a safety perspective, the use of products with a high THC component is controversial. Research is necessary to develop marijuana-based compounds that have minimal psychoactive properties while retaining other desirable, therapeutic pharmacologic effects.

### Laws and Regulations

Several agencies and organizations have provided position statements calling for more research on marijuana-based products.<sup>4-6</sup> As of this writing, Minnesota and Colorado have funded studies to assess the efficacy of marijuana-based products. Several states also have passed legislation supporting decriminalization of marijuana based products when used for medical purposes. The legislation typically requires patients to possess a valid registration, based on letters from a physician stating that they have a debilitating medical condition. The legislation also provides for registration of centers to cultivate and sell marijuana products for medical use. The legislation does not usually specify what symptoms of the condition are expected to be improved by medical marijuana. Therefore, patients with one of the medical conditions listed may request letters from their physicians supporting their medical use of marijuana without clear information regarding what exactly is being treated. The legislation does not differentiate between different forms of marijuana, such as oral, smoked, or other marijuana-



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based products, which may have different effectiveness and safety profiles.

**Available Studies**

Case reports and limited studies have addressed the efficacy of marijuana-based products in treating various neurologic disorders.<sup>7-10</sup> A recent evidence-based guideline by the AAN provided support for the use of specific oral and oromucosal forms of cannabis to improve some symptoms in patients with multiple sclerosis.<sup>1</sup> A subsequent AAN systematic review of medical marijuana for neurologic disorders concluded that oral cannabis extracts are probably ineffective for treating levodopa-induced abnormal involuntary movements in Parkinson's disease, but it did not find evidence for or against the use of oral cannabinoids for several other conditions.<sup>2</sup> These and other reviews emphasize the need for further research. Importantly, there is no evidence to support the use of smoked cannabis.


In clinical studies, side effects of cannabis have included nausea, dizziness, mood changes, hallucinations or suicidal ideation, feeling of intoxication, and increased weakness.<sup>2</sup> Seizures have been reported rarely.<sup>1</sup> The safety of long-term use remains uncertain. Addiction to recreationally used marijuana is controversial, but there is some evidence of tolerance and dependence related to long term heavy use.<sup>11-13</sup> Evidence also suggests that chronic recreational use of marijuana may cause impairment in memory, concentration, and executive functioning. It is unclear how long these effects persist after stopping marijuana use or whether there may be permanent nervous system toxicity.<sup>14-17</sup> One study<sup>18</sup> found that cannabis extracts were associated with memory and verbal learning deficits. The psychopathological and cognitive side effects of marijuana-based products are of concern in patients who may be more vulnerable because of their underlying neurologic disorders. Safety concerns are even greater when considered for use in children.

**Position Statement History**

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**References**

1. Yadav V, Bever C Jr, Bowen J, Bowling A, Weinstock-Guttman B, Cameron M, Bourdette D, Gronseth GS, and Narayanaswami P. Summary of evidence-based guideline: Complementary and alternative medicine in multiple sclerosis: Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology* 2014; 82:1083-1092.
2. Koppel BS, Brust JC, Fife T, et al. Systematic review: Efficacy and safety of medical marijuana in selected neurologic disorders: Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology* 2014;82:1556-1563.
3. Gloss D, Vickrey B. Cannabinoids for epilepsy. *Cochrane Database Syst Rev* 2014;3:CD009270.
4. Gattone PM, Lammert W, , and Devinsky O. Epilepsy Foundation Position Statement Medical Marijuana [online]. Available at: <http://www.epilepsy.com/article/2014/2/epilepsy-foundation-calls-increased-medical-marijuana-access-and-research>.
5. MS Society Position Statement Medical Marijuana [online]. Available at: <http://www.nationalmssociety.org/Treating-MS/Complementary-Alternative-Medicines/Marijuana#>.
6. AES Position on Medical Marijuana [online]. Available at: [https://www.aesnet.org/sites/default/files/file\\_attach/AboutAES/PositionStatements/AES%20Position%20on%20Medical%20Marijuana.pdf](https://www.aesnet.org/sites/default/files/file_attach/AboutAES/PositionStatements/AES%20Position%20on%20Medical%20Marijuana.pdf).
7. Muller-Vahl KR. Treatment of Tourette syndrome with cannabinoids. *Behavioral Neurology* 2013;27:119-124.



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8. Maa E, Figi P. The case for medical marijuana in epilepsy. *Epilepsia*. 2014 Jun;55(6):783-6. doi: 10.1111/epi.12610. Epub 2014 May 22.
9. Porter BE1, Jacobson C. Report of a parent survey of cannabidiol-enriched cannabis use in pediatric treatment-resistant epilepsy. *Epilepsy Behav*. 2013 Dec;29(3):574-7. doi: 10.1016/j.yebeh.2013.08.037.
10. Venderova K, Ruzicka E, Vorisek V, Visnovsky P. Survey on Cannabis Use in Parkinson's Disease: Subjective Improvement of Motor Symptoms. *Mov Disord* 2004;19:1102-6.
11. Iversen L. Cannabis and the brain. *Brain* 2003;126:1252-1270.
12. Budney AJ, Hughes JR, Moore BA, et al: Review of the validity and significance of cannabis withdrawal syndrome. *Am J Psychiatry* 2004;161:1967-1977.
13. Budney AJ, Hughes JR: The cannabis withdrawal syndrome. *Curr Opin Psychiatry* 2006; 19:233-238.
14. Pope HG Jr, Gruber AJ, Hudson JI, et al: Neuropsychological performance in long-term cannabis users. *Arch Gen Psychiatry* 2001;58:909-915.
15. Bolla KI, Brown K, Eldreth D, et al: Dose-related neurocognitive effects of marijuana use. *Neurology* 2002;59:1337-1343.
16. Solowij N, Stephens RS, Roffman RA, et al: Cognitive functioning of long-term heavy cannabis seeking treatment. *JAMA* 2002;287:1123-1131.
17. Messinis L, Kyprianidou A, Malefaki S, et al. Neuropsychological deficits in long-term frequent cannabis users. *Neurology* 2006;66:737-739.
18. Zajicek J, Fox P, Sanders H, et al. Cannabinoids for treatment of spasticity and other symptoms related to multiple sclerosis (CAMS study): Multicentre randomised placebo-controlled trial. *Lancet* 2003;362:1517-1526.




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## El impacto de las políticas sobre marihuana en la Juventud: Clínica, Investigación y Actualización Legal

### *The Impact of Marijuana Policies on Youth: Clinical, Research, and Legal Update*

Academia Americana de Pediatría. Comité de abuso de sustancias y comité sobre adolescencia. *Pediatrics* 2015, vol 135 (3): 584-7. Acceso 30 de marzo de 2015;Doi: 10.1542/ped.2014-4146.

Las recomendaciones de la Academia Americana de Pediatría (AAP) son:

1. Teniendo en cuenta los datos existentes que apoyan el efecto negativo de la marihuana sobre la salud y el desarrollo del cerebro en niños y adolescentes entre 0 y 21 años, la AAP se manifiesta en contra del uso de marihuana en esta franja de edad.
2. La AAP se opone al uso médico de marihuana fuera de la reglamentación de la FDA (U.S. Food and Drug Administration). A pesar de esta oposición, la AAP reconoce que la marihuana puede ser una opción para la administración de cannabinoides en niños con una vida limitada o con condiciones muy debilitantes, y para quienes las terapias actuales son inadecuadas.
3. La AAP se opone a la legalización de la marihuana debido a los daños potenciales que puede ocasionar en niños y adolescentes. La AAP apoya estudiar los efectos de las recientes leyes que han legalizado el uso de la marihuana, para entender mejor el impacto y para definir mejores políticas para reducir el consumo de marihuana entre los adolescentes.
4. En los estados que han legalizado la marihuana con fines recreativos, la AAP recomienda encarecidamente la aplicación estricta de las normas y regulaciones para limitar el acceso, y la comercialización y publicidad dirigida a los jóvenes.
5. La AAP apoya firmemente realizar investigación y desarrollo de cannabinoides farmacéuticos, además de apoyar la revisión de las políticas de promoción de investigación sobre el uso médico de estos compuestos.
6. Aunque la AAP no condona las leyes estatales que permiten la venta de productos de marihuana en los estados donde es legal su uso recreativo, los pediatras deben abogar que los estados regulen el producto lo más estrechamente posible con las normas ya existentes para el tabaco y alcohol, con una edad mínima de 21 años para su adquisición. Los ingresos obtenidos por esta regulación deben ser utilizados para apoyar estudios de investigación sobre los riesgos y beneficios de la marihuana para la salud. Estas regulaciones deben incluir sanciones estrictas para los que venden marihuana o productos de marihuana a menores de 21 años, programas de educación para adolescentes y menores de 21 años en posesión de marihuana, restricciones en los puntos de venta, y otras restricciones en su comercialización.
7. Para evitar una ingesta accidental por parte de niños, en los estados donde se vende marihuana legalmente, ya sea con fines médicos o recreativos, debe haber una regulación que asegure que todas las formas de presentación de marihuana se distribuyan en envases a prueba de niños.
8. La AAP apoya firmemente la despenalización del consumo de marihuana tanto para los menores de edad como adultos jóvenes y alienta a los pediatras a abogar por leyes que impidan sanciones penales severas por la posesión o el uso de marihuana. Aconsejan centrarse en el tratamiento y derivación de los adolescentes con problemas de consumo.
9. La AAP se opone firmemente al consumo de marihuana fumado porque es bien conocido el daño producido sobre los pulmones, y además los efectos como fumador pasivo son desconocidos.
10. La AAP desalienta el uso de marihuana por parte de adultos en presencia de menores debido a la importante influencia de los adultos, como modelos de conducta, sobre el comportamiento de niños y adolescentes.

POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children



# The Impact of Marijuana Policies on Youth: Clinical, Research, and Legal Update

COMMITTEE ON SUBSTANCE ABUSE and COMMITTEE ON ADOLESCENCE

This policy statement is an update of the American Academy of Pediatrics policy statement "Legalization of Marijuana: Potential Impact on Youth," published in 2004. Pediatricians have special expertise in the care of children and adolescents and may be called on to advise legislators about the potential impact of changes in the legal status of marijuana on adolescents. Parents also may look to pediatricians for advice as they consider whether to support state-level initiatives that propose to legalize the use of marijuana for medical and nonmedical purposes or to decriminalize the possession of small amounts of marijuana. This policy statement provides the position of the American Academy of Pediatrics on the issue of marijuana legalization. The accompanying technical report reviews what is currently known about the relationships of marijuana use with health and the developing brain and the legal status of marijuana and adolescents' use of marijuana to better understand how change in legal status might influence the degree of marijuana use by adolescents in the future.

## abstract

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## DEFINITIONS

For the purpose of clarifying terminology, the following are definitions used in this policy statement and the accompanying technical report<sup>1</sup>:

### Legalization

Allowing cultivation, sale, and use of cannabis (restricted to adults  $\geq 21$  years of age).

### Legalization of Medical Marijuana

Allowing the use of marijuana to treat a medical condition or symptom with a recommendation from a physician.



**Decriminalization**

Reducing penalties for cannabis-related offenses to lesser criminal charges or to civil penalties.

**INTRODUCTION**

Marijuana is the most commonly used illicit substance among adolescents.<sup>2</sup> Recreational sale and possession of marijuana by adults remain illegal in most states and remain illegal under federal law. However, a number of states and local jurisdictions have decriminalized the possession of marijuana for recreational use by adults, reducing penalties to misdemeanors or citations. Many states also have legalized medical marijuana for adults who receive recommendations for use by physicians. Almost all states with medical marijuana laws allow access by minors, though often with greater regulation. States in which marijuana is legal prohibit marijuana sales to and use by minors, but changes in the legal status of marijuana, even if limited to adults, may affect the prevalence of use among adolescents. Although the epidemiologic data are not consistent across states and time periods, with the exception of Michigan and New Mexico, in all states where medical marijuana has been legalized, marijuana use by minors has been stable or has decreased.<sup>3</sup> Youth substance use rates depend on a number of factors, including legal status, availability and ease of access of the substance, and perception of harm. For example, although tobacco is easily accessible, youth tobacco use rates have decreased substantially since the 1990s, in conjunction with aggressive public health campaigns warning of the medical consequences of smoking. In Colorado, the passage of the amendment to legalize recreational marijuana occurred in November 2012. Although sales of recreational

marijuana did not start in Colorado until January 1, 2014, the postlegalization 2013 rates of youth use increased.<sup>4</sup> It is possible that public health campaigns that effectively communicate the harms associated with teen marijuana use could reduce youth use despite legalization. Legalization campaigns that imply that marijuana is a benign substance present a significant challenge for educating the public about its known risks and adverse effects. Therefore, it is unclear what the impact of legalization of marijuana for adults will have on the prevalence of marijuana use by adolescents, especially if the implementation of legalization includes messaging that minimizes the health and behavioral risks.

Substance abuse by adolescents is an ongoing health concern. Marijuana remains classified in the Controlled Substances Act (21 USC §801-971 [2012]) as a schedule I drug. This classification implies that it has a high potential for abuse, has no currently accepted medical use in the United States, and lacks accepted safety for use under supervision by a physician. Despite this classification by the federal government, marijuana has been legalized for medical purposes in a number of states, in direct opposition to federal law. Since the first policy statement from the American Academy of Pediatrics (AAP) on the legalization of marijuana was published in 2004, limited research has been performed to examine the potential therapeutic effects of marijuana for adults, specifically the class of chemicals known as cannabinoids, which are responsible for most of the medicinal effects of marijuana. This research has demonstrated that both the drugs approved by the US Food and Drug Administration and other pharmaceutical cannabinoids, such as cannabidiol, can be helpful for adults with specific conditions, such as increasing appetite and

decreasing nausea and vomiting in patients with cancer and for chronic pain syndromes,<sup>5,6</sup> although side effects of dizziness and dysphoria may also be experienced. There are no published studies on the use of medicinal marijuana or pharmaceutical cannabinoids in pediatric populations.

**EFFECTS OF MARIJUANA**

The adverse effects of marijuana have been well documented, and studies have demonstrated the potential negative consequences of short- and long-term recreational use of marijuana in adolescents. These consequences include impaired short-term memory and decreased concentration, attention span, and problem solving, which clearly interfere with learning. Alterations in motor control, coordination, judgment, reaction time, and tracking ability have also been documented<sup>7</sup>; these may contribute to unintentional deaths and injuries among adolescents (especially those associated with motor vehicles if adolescents drive while intoxicated by marijuana).<sup>8</sup> Negative health effects on lung function associated with smoking marijuana have also been documented, and studies linking marijuana use with higher rates of psychosis in patients with a predisposition to schizophrenia have recently been published,<sup>9</sup> raising concerns about longer-term psychiatric effects. New research has also demonstrated that the adolescent brain, particularly the prefrontal cortex areas controlling judgment and decision-making, is not fully developed until the mid-20s, raising questions about how any substance use may affect the developing brain. Research has shown that the younger an adolescent begins using drugs, including marijuana, the more likely it is that drug dependence or addiction will develop in adulthood.<sup>10</sup> A recent analysis of 4 large epidemiologic

trials found that marijuana use during adolescence is associated with reductions in the odds of high school completion and degree attainment and increases in the use of other illicit drugs and suicide attempts in a dose-dependent fashion that suggests that marijuana use is causative.<sup>11</sup>

#### DECRIMINALIZATION EFFORTS AND EFFECTS

The illegality of marijuana has resulted in the incarceration of hundreds of thousands of adolescents, with overrepresentation of minority youth.<sup>12</sup> A criminal record can have lifelong negative effects on an adolescent who otherwise has had no criminal justice history. These effects can include ineligibility for college loans, housing, financial aid, and certain kinds of jobs.<sup>13</sup> In states that have passed decriminalization laws, marijuana use is still illegal, although the consequences of possession and use are less punitive. Although these laws are not applicable to adolescents in all states, the changes in the law are intended to address and reduce the long-term effects that felony charges can have on youth and young adults.<sup>13</sup> Continued efforts to address this problem are based on issues of social justice, given the disparate rate of adjudication for drug offenses for youth of racial minority groups compared with white youth. Advocates of decriminalization have also sought to increase the availability of drug treatment services.<sup>14</sup>

#### CONCLUSIONS

Ultimately, the behavioral and health risks associated with marijuana use by youth should be the most salient criteria in determining whether policies that are enacted are effective in minimizing harm. More information, including the legal status of marijuana for both recreational and medical use, the effect of legal status on rates of use by adolescents and young adults, research on

medical marijuana and the adverse effects of marijuana use, the impact of criminal penalties particularly on minority teens and communities, and adolescent brain development related to substance use, is available in the accompanying technical report.<sup>1</sup>

#### RECOMMENDATIONS

1. Given the data supporting the negative health and brain development effects of marijuana in children and adolescents, ages 0 through 21 years, the AAP is opposed to marijuana use in this population.
2. The AAP opposes "medical marijuana" outside the regulatory process of the US Food and Drug Administration. Notwithstanding this opposition to use, the AAP recognizes that marijuana may currently be an option for cannabinoid administration for children with life-limiting or severely debilitating conditions and for whom current therapies are inadequate.
3. The AAP opposes legalization of marijuana because of the potential harms to children and adolescents. The AAP supports studying the effects of recent laws legalizing the use of marijuana to better understand the impact and define best policies to reduce adolescent marijuana use.
4. In states that have legalized marijuana for recreational purposes, the AAP strongly recommends strict enforcement of rules and regulations that limit access and marketing and advertising to youth.
5. The AAP strongly supports research and development of pharmaceutical cannabinoids and supports a review of policies promoting research on the medical use of these compounds. The AAP recommends changing marijuana from a Drug Enforcement Administration schedule I to

a schedule II drug to facilitate this research.

6. Although the AAP does not condone state laws that allow the sale of marijuana products, in states where recreational marijuana is currently legal, pediatricians should advocate that states regulate the product as closely as possible to tobacco and alcohol, with a minimum age of 21 years for purchase. Revenue from this regulation should be used to support research on the health risks and benefits of marijuana. These regulations should include strict penalties for those who sell marijuana or marijuana products to those younger than 21 years, education and diversion programs for people younger than 21 years who possess marijuana, point-of-sale restrictions, and other marketing restrictions.
7. In states where marijuana is sold legally, either for medical or recreational purposes, regulations should be enacted to ensure that marijuana in all forms is distributed in childproof packaging, to prevent accidental ingestion.
8. The AAP strongly supports the decriminalization of marijuana use for both minors and young adults and encourages pediatricians to advocate for laws that prevent harsh criminal penalties for possession or use of marijuana. A focus on treatment for adolescents with marijuana use problems should be encouraged, and adolescents with marijuana use problems should be referred to treatment.
9. The AAP strongly opposes the use of smoked marijuana because smoking is known to cause lung damage,<sup>15</sup> and the effects of secondhand marijuana smoke are unknown.
10. The AAP discourages the use of marijuana by adults in the presence of minors because of the important influence of role modeling by adults on child and adolescent behavior.

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**REFERENCES**

1. American Academy of Pediatrics, Committee on Substance Abuse and Committee on Adolescence. Technical

report: the impact of marijuana policies on youth: clinical, research, and legal update. *Pediatrics*. 2015; (in press)

2. Monitoring the Future. Trends in 30-day prevalence of use of various drugs in grades 8, 10, and 12. Table 3. Ann Arbor, MI: University of Michigan; 2013. Available at: [www.monitoringthefuture.org/data/10data/pr10t3.pdf](http://www.monitoringthefuture.org/data/10data/pr10t3.pdf)

3. Lynne-Landsman SD, Livingston MD, Wagenaar AC. Effects of state medical marijuana laws on adolescent marijuana use. *Am J Public Health*. 2013;103(8):1500–1506. Available at: [www.pubmedcentral.nih.gov/articlerender.fcgi?partid=4007871&tool=pmcentrez&rendertype=abstract](http://www.pubmedcentral.nih.gov/articlerender.fcgi?partid=4007871&tool=pmcentrez&rendertype=abstract). Accessed October 1, 2014

4. Substance Abuse and Mental Health Services Administration. Results from the 2013 NSDUH: Summary of National Findings. In: N.S.D.U.H. series H-48, Vol HHS Public. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014:14–4863. Available at: [www.samhsa.gov/data/NSDUH/2013SummNatFindDetTables/NationalFindings/NSDUHresults2013.htm](http://www.samhsa.gov/data/NSDUH/2013SummNatFindDetTables/NationalFindings/NSDUHresults2013.htm). Accessed October 1, 2014

5. Aggarwal SK, Carter GT, Sullivan MD, Zumbunnen C, Morrill R, Mayer JD. Medicinal use of cannabis in the United States: historical perspectives, current trends, and future directions. *J Opioid Manag*. 2009;5(3):153–168. Available at: [www.ncbi.nlm.nih.gov/pubmed/19662925](http://www.ncbi.nlm.nih.gov/pubmed/19662925). Accessed October 3, 2014

6. Cotter J. Efficacy of crude marijuana and synthetic delta-9-tetrahydrocannabinol as treatment for chemotherapy-induced nausea and vomiting: a systematic literature review. *Oncol Nurs Forum*. 2009;36(3):345–352

7. Schweinsburg AD, Nagel BJ, Schweinsburg BC, Park A, Theilmann RJ, Tapert SF. Abstinent adolescent marijuana users show altered fMRI response during spatial working memory. *Psychiatry Res*. 2008;163(1):40–51

8. National Highway Traffic Safety Administration. Marijuana and actual driving performance. Publication no. 808–078. Washington, DC: US Department of Transportation; 1993. Available at: <http://druglibrary.org/schaffer/misc/driving/driving.htm>. Accessed October 3, 2014

9. Moore THM, Zammit S, Lingford-Hughes A, et al. Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. *Lancet*. 2007;370(9584):319–328. Available at: [www.ncbi.nlm.nih.gov/pubmed/17662880](http://www.ncbi.nlm.nih.gov/pubmed/17662880). Accessed October 3, 2014

10. Schepis TS, Adinoff B, Rao U. Neurobiological processes in adolescent addictive disorders. *Am J Addict*. 2008;17(1):6–23. Available at: [www.pubmedcentral.nih.gov/articlerender.fcgi?partid=2274940&tool=pmcentrez&rendertype=abstract](http://www.pubmedcentral.nih.gov/articlerender.fcgi?partid=2274940&tool=pmcentrez&rendertype=abstract). Accessed September 3, 2014

11. Silins E, Horwood LJ, Patton GC, et al. Young adult sequelae of adolescent cannabis use: an integrative analysis. *Lancet Psychiatry*. 2014;1(4):286–295. Available at: [www.thelancet.com/journals/lanpsy/article/PIIS2215-0366\(14\)70307-4/fulltext](http://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(14)70307-4/fulltext). Accessed September 10, 2014

12. Science D. United States marijuana arrests (1982–2008). *Bull Cannabis Reform*. 2009. Available at: [www.drugscience.org/States/US/US\\_total.htm](http://www.drugscience.org/States/US/US_total.htm). Accessed October 1, 2014

13. Males M, Buchen L. *Reforming Marijuana Laws: Which Approach Best Reduces the Harms of Criminalization?* San Francisco, CA: Center on Juvenile and Criminal Justice; 2014:1–13. Available at: [www.cjcj.org/uploads/cjcj/documents/cjcj\\_marijuana\\_reform\\_comparison.pdf](http://www.cjcj.org/uploads/cjcj/documents/cjcj_marijuana_reform_comparison.pdf)

14. Drug Policy Alliance. Reforming marijuana laws. 2014. Available at: [www.drugpolicy.org/reforming-marijuana-laws](http://www.drugpolicy.org/reforming-marijuana-laws). Accessed October 1, 2014

15. Volkow ND, Baler RD, Compton WM, Weiss SRB. Adverse health effects of marijuana use. *N Engl J Med*. 2014;370(23):2219–2227. Available at: [www.nejm.org/doi/full/10.1056/NEJMra1402309?query=featured\\_home&](http://www.nejm.org/doi/full/10.1056/NEJMra1402309?query=featured_home&). Accessed July 30, 2014

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## La FDA aprueba Gardasil 9 para la prevención de determinados cánceres causados por 5 adicionales tipos de Virus del Papiloma Humano

*FDA approves Gardasil 9 for prevention of certain cancers caused by five additional types of HPV*

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm426485.htm>

La FDA (U.S. Food and Drug Administration) ha aprobado la recomendación de la vacuna Gardasil 9 que ofrece protección contra 9 tipos de virus del papiloma humano (VPH). La versión anterior ofrece protección contra los serotipos 6, 11, 16 y 18, y en la nueva versión de Gardasil se incorpora protección contra los serotipos de VPH 31, 33, 45, 52 y 58. Estos últimos son responsables de aproximadamente 1 de cada 5 casos de cáncer de cuello uterino.

Casi el 100% de los cánceres de cuello uterino, 90% de los cánceres anales, 70% de los vaginales y 15% de los cánceres de la vulva están ocasionados por el VPH.

La vacuna está indicada en niñas y mujeres entre edades 9-26 años para prevenir:

- cáncer de cuello uterino, vulva, vagina y anal ocasionado por el VPH tipos 16, 18, 31, 33, 45, 52, y 58.
- verrugas genitales ocasionadas por los tipos 6 y 11.
- otros tipos de lesiones displásicas del cuello uterino, vulva, vagina y ano ocasionados por los tipos 6, 11, 16, 18, 31, 33, 45, 52, y 58.

Las indicaciones también se extienden a varones entre 9 y 15 años para:

- cáncer anal ocasionado por el VPH tipos 16, 18, 31, 33, 45, 52, y 58
- verrugas genitales ocasionados por tipos 6 y 11
- neoplasia anal intraepitelial grados 1, 2 y 3 ocasionado por los tipos 6, 11, 16, 18, 31, 33, 45, 52, y 58.

Recomiendan la administración de 3 dosis de Gardasil 9 (meses 0, 2 y 6). El mayor beneficio se obtiene cuando el individuo ha sido vacunado previamente al contagio por el VPH.

La seguridad de Gardasil 9 fue evaluada en aproximadamente 13.000 hombres y mujeres. Las reacciones adversas más frecuentes fueron dolor, tumefacción y enrojecimiento en el lugar de la inyección, y dolor de cabeza.