



EV-A71, EV-D68 Y OTROS ENTEROVIRUS

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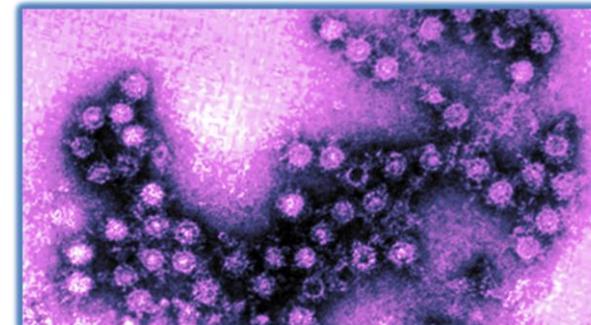
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INFECCIONES POR ENTEROVIRUS

- ❑ [Infecciones por enterovirus. Revisión de la situación en España. SEIP. Mayo de 2016](#)
- ❑ [Importancia del diagnóstico de los echovirus desde el punto de vista epidemiológico. Circulación de echovirus 11 en los últimos años en España.](#) Control y Calidad SEIMC Servicio de Virología, Centro Nacional de Microbiología, Majadahonda
- ❑ [Enterovirus: Características y diagnóstico.](#) Control y Calidad SEIMC. Servicio de Microbiología. Hospital Clínico Universitario de Valencia

- ❑ [Enteroviruses. Medscape. Sep 2015](#)
- ❑ [Enterovirus y parchovirus. UpToDate. Review Apr 2016](#)
- ❑ [Enterovirus surveillance guidelines. World Health Organization 2015](#)
- ❑ [Enterovirus D68 \(EV-D68\) Photos.](#) CDC. Nov 2014





CLASIFICACIÓN, EVOLUCIÓN Y DIAGNÓSTICO DE ENTEROVIRUS

- ❑ [Comparative evaluation of Taqman real-time PCR and semi-nested VP1 PCR for detection of enteroviruses in clinical specimens. *J Clin Virol.* 2010;49:73-74](#)
- ❑ [Parechovirus typing in clinical specimens by nested or semi-nested VP1 PCR coupled with sequencing. *J Clin Virol.* 2010;48:202-207](#)
- ❑ [Detection of all known parechoviruses by real time—PCR. *J Clin Microbiol.* 2008;46\(8\):2519-2524.](#)
- ❑ [Sensitive, seminested PCR amplification of VP1 sequences for direct identification of all enterovirus serotypes from original clinical specimens. *J Clin Microbiol.* 2006;44\(8\):2698-2704.](#)
- ❑ [Improved molecular identification of enteroviruses by RT—PCR and amplicon sequencing. *J Clin Virol.* 2003;26\(3\):375-7.CDC.](#)
- ❑ [Comparison of classic and molecular approaches for the identification of untypeable enteroviruses. *J Clin Microbiol.* 2000;38\(3\):1170-4CDC.](#)
- ❑ [Molecular evolution of the human enteroviruses: correlation of serotype with VP1 sequence and application to picornavirus classification. *J Virol.* 1999;73\(3\):1941-8.](#)

BROTOS INFECCIOSOS POR ENTEROVIRUS: USA Y ASIA

- ❑ <http://www.who.int/csr/don/archive/disease/enterovirus/en/>:
 - USA: [17 September 2014](#)
 - China: [21 May 2008](#), [7 May 2008](#), [1 May 2008](#),
 - Taiwuan, China: [4 July 1998](#), [16 June 1998](#), [17 June 1998](#)

- ❑ [Enterovirus 71 related severe hand, foot and mouth disease outbreaks in South-East Asia: current situation and ongoing challenges](#). *J Epidemiol Community Health*. 2014; 68:500. Online First: 19 March 2014

- ❑ Información CDC: **BROTOS DE EV-D68**:
 - ❑ [Severe respiratory illness associated with a nationwide outbreak of enterovirus D68 in the USA \(2014\): a descriptive epidemiological investigation](#). *The Lancet*. 2015. Available online 5 Oct 2015
 - ❑ [Severe respiratory illness associated with enterovirus D68 — Missouri and Illinois, 2014](#). *MMWR*. 2014;63(Early Release);1-2
 - ❑ CDC. [Clusters of acute respiratory illness associated with human enterovirus 68—Asia, Europe, and United States, 2008-2010](#). *MMWR* 2011;60(38);1301-1304



BROTOS INFECCIOSOS POR EV-D68 Y OTROS ENTEROVIRUS EN EUROPA

- ❑ [A note from the editors: enterovirus D68 epidemiology in France and Germany—food for thought. Eurosurveillance, Volume 21, Issue 19, 12 May 2016](#)
- ❑ [Epidemiological and clinical characteristics of patients infected with enterovirus D68, France, July to December 2014. Eurosurveillance, Volume 21, Issue 19, 12 May 2016](#)
- ❑ [Detection of enterovirus D68 in patients hospitalised in three tertiary university hospitals in Germany, 2013 to 2014. Eurosurveillance, Volume 21, Issue 19, 12 May 2016](#)
- ❑ [Evaluation of the enterovirus laboratory surveillance system in Denmark, 2010 to 2013. Eurosurveillance, Volume 21, Issue 18, 05 May 2016](#)



BROTOS INFECCIOSOS POR EV-D68 Y OTROS ENTEROVIRUS EN EUROPA

- ❑ [Transmission patterns of human enterovirus 71 to, from and among European countries, 2003 to 2013.](#) *Eurosurveillance*, Volume 20, Issue 34, 27 August 2015
- ❑ [Emergence of enterovirus D68 in Denmark, June 2014 to February 2015.](#) *Eurosurveillance*, Volume 20, Issue 17, 30 April 2015
- ❑ [Two cases of acute severe flaccid myelitis associated with enterovirus D68 infection in children, Norway, autumn 2014.](#) *Eurosurveillance*, Volume 20, Issue 10, 12 March 2015
- ❑ [Presence of human non-polio enterovirus and parechovirus genotypes in an Amsterdam hospital in 2007 to 2011 compared to national and international published surveillance data: a comprehensive review.](#) *Eurosurveillance*, Volume 19, Issue 46, 20 November 2014



BROTOS INFECCIOSOS POR EV-D68 Y OTROS ENTEROVIRUS EN EUROPA

- ❑ [Acute flaccid paralysis following enterovirus D68 associated pneumonia, France, 2014.](#) *Eurosurveillance, Volume 19, Issue 44, 06 November 2014*
- ❑ [Continued seasonal circulation of enterovirus D68 in the Netherlands, 2011–2014.](#) *Eurosurveillance, Volume 19, Issue 42, 23 October 2014*
- ❑ [Comparison of diagnostic clinical samples and environmental sampling for enterovirus and parechovirus surveillance in Scotland, 2010 to 2012.](#) *Eurosurveillance, Volume 19, Issue 15, 17 April 2014*
- ❑ [Emergence of enterovirus 71 C4a in Denmark, 2009 to 2013.](#) *Eurosurveillance, Volume 19, Issue 38, 25 September 2014*
- ❑ [Isolating Asian enterovirus 71 subgenogroup C4 in two Austrian clinical samples from 2004.](#) *Eurosurveillance, Volume 13, Issue 28, 10 July 2008*



EV-A71, EV-D68 Y OTROS ENTEROVIRUS EN ESPAÑA



- ❑ [Enterovirus](#). Departament de Salut
- ❑ [Quadres neurològics aguts per enterovirus en població pediàtrica](#). Publicada el 24-05-2016
- ❑ [Comín: "La comunicació fiable dels casos d'enterovirus necessita base científica i certeses"](#) 26-05-2016
- ❑ [Salut recomana fer vida normal arran dels 48 casos d'enterovirus detectats a menors de 6 anys a Catalunya](#). Vall de Hebron. Portal-Noticias Home. 19 mayo 2016
- ❑ [Salud eleva a 60 los niños infectados por el brote de enterovirus](#). El País. Barcelona 20 mayo 2016



EV-A71, EV-D68 Y OTROS ENTEROVIRUS EN ESPAÑA



- ❑ [Identificado un enterovirus D68 asociado a un caso de parálisis flácida aguda en Zaragoza. Boletín Epidemiológico Semanal de Aragón \(Semana 01/2016\), 14 de enero de 2016](#)
- ❑ [Primeras detecciones de Enterovirus D68 \(EV-D68\) en población hospitalizada en España, Octubre 2014. Enferm Infecc Microbiol Clin. 2015;33\(9\):585–589](#)
- ❑ [Vigilancia de enterovirus no polio Sistema de Información Microbiológica. Años 2006-2009. Boletín Epidemiológico semana. Centro Nacional de Epidemiología. ISCIII. 2009;17\(4\):37-48](#)
- ❑ [Brote de meningitis por echovirus serotipo 30 en la Comunidad Valenciana. Enferm Infecc Microbiol Clin. 2009;27\(5\):263–268](#)



SEGUIMIENTO EPIDEMIOLÓGICO DE LA PARALISIS FLACIDA

- ❑ [Enterovirus identificados en los casos de Parálisis Flácida Aguda notificados al Sistema de Vigilancia de PFA y a la Vigilancia de Enterovirus.](#) **Centro Nacional de Epidemiología. 19 mayo 2016**

- ❑ CDC. [Investigation of Acute Flaccid Myelitis in U.S. Children, August 2014-July 2015](#)
- ❑ CDC. [Acute Flaccid Paralysis with Anterior Myelitis — California, June 2012–June 2014.](#) MMWR. 2014;63(40);903-906

- ❑ [Type 1 wild poliovirus and putative enterovirus 109 in an outbreak of acute flaccid paralysis in Congo, October-November 2010.](#) Eurosurveillance, Volume 15, Issue 47, 25 November 2010



RECURSOS Y MATERIAL PARA PADRES SOBRE ENTEROVIRUS

- ❑ <http://www.dra-amalia-arce.com/2016/05/alerta-de-salud-y-alarma-social-el-caso.html>
- ❑ <https://neuropediatra.org/2016/05/18/enterovirus-sistema-nervioso/>
- ❑ [Preguntas y respuestas sobre el enterovirus. Generalitat de Catalunya. Deartamente de Salut. Mayo 2016](#)
- ❑ [Fact sheet, What Parents Need to Know about Enterovirus D68](#)
- ❑ [CDC feature, What Parents Need to Know about Enterovirus D68.](#)
- ❑ [Infographic, Keep Your Child from Getting and Spreading Enterovirus D68](#)

Si alguien tiene más interés:



Más información sobre el EV-D68, EV-A71

- ❑ [Systematic community- and hospital-based surveillance for enterovirus-D68 in three Canadian provinces, August to December 2014.](#) *Eurosurveillance, Volume 20, Issue 43, 29 October 2015.*
- ❑ [Clinical Analysis of 134 Children with Nervous System Damage Caused by Enterovirus 71 Infection.](#) *Pediatr Infect Dis J. 2015 Jul;34(7):718-23*
- ❑ [Archivist: Enterovirus D68: a new cause of acute paralysis?.](#) *Arch Dis Child 2015;100:54*
- ❑ [Molecular epidemiology and evolution of human enterovirus serotype 68 in Thailand, 2006-2011.](#) *PLoS One. 2012;7(5):e35190*
- ❑ [Neurodevelopment and Cognition in Children after Enterovirus 71 Infection.](#) *N Engl J Med 2007;356:1226-34*

Más información de los CDC sobre ENTEROVIRUS

- ❑ CDC. [Notes from the Field: Aseptic Meningitis Outbreak Associated with Echovirus 30 Among High School Football Players — Los Angeles County, California, 2014.](#) *MMWR*. 2015;63(51);1228
- ❑ CDC. [Notes from the field: Severe hand, foot, and mouth disease associated with coxsackievirus a6—Alabama, Connecticut, California, and Nevada, November 2011-February 2012](#) .*MMWR*. 2012;61:213-4.
- ❑ CDC. [Increased detections and severe neonatal disease associated with coxsackievirus B1 infection—United States, 2007.](#) *MMWR*. 2008;57:553-6.
- ❑ CDC. [Aseptic meningitis outbreak associated with echovirus 9 among recreational vehicle campers—Connecticut, 2003.](#) *MMWR*. 2004;53(31):710-3.
- ❑ CDC. [Echovirus type 13—United States, 2001.](#) *MMWR*. 2001;50(36):777-80.
- ❑ [Increased activity of coxsackievirus B1 strains associated with severe disease among young infants in the United States, 2007-2008.](#) *Clin Infect Dis*. 2009;49(5):e44-51



Vigilancia Epidemiológica de los CDC

- ❑ CDC. [Enterovirus and human parechovirus surveillance – United States, 2009-2013](#) *MMWR*. 2015;64(34):940-3.
- ❑ CDC. [Non-polio enteroviruses and human parechovirus—United States, 2006–2008](#) *MMWR*. 2010;59(48);1577-1580.
- ❑ CDC. [Enterovirus surveillance—United States, 2002–2004](#). *MMWR*. 2006;55(06);153-156.
- ❑ CDC. [Enterovirus surveillance—United States, 1970–2005](#). *MMWR*. 2006;55(No. SS-08).
- ❑ CDC. [Enterovirus surveillance—United States, 2000–2001](#). *MMWR*. 2002;22;51(46):1047-9.
- ❑ CDC. [Enterovirus surveillance—United States, 1997–1999](#). *MMWR*. 2000;49(40):913-6.



Más sobre ENTEROVIRUS

- ❑ [Molecular epidemiology of Coxsackievirus A16 strains isolated from children in Yamagata, Japan between 1988 and 2011.](#) Microbiol Immunol. 2013 May;57(5):400-5
- ❑ [Genetic characterization of a Coxsackie A9 virus associated with aseptic meningitis in Alberta, Canada in 2010.](#) Virol J. 2013 Mar 22;10:93
- ❑ [Molecular epidemiology of Echovirus 30 in Fujian, China between 2001 and 2011.](#) J Med Virol. 2013 Apr;85(4):696-702
- ❑ [Molecular characteristics of human coxsackievirus B1 infection in Korea, 2008-2009.](#) Med Virol. 2013 May;85(5):939
- ❑ [Comparative genetic analysis of VP4, VP1 and 3D gene regions of enterovirus 71 and coxsackievirus A16 circulating in Malaysia between 1997-2008.](#) Trop Biomed. 2012 Sep;29(3):451-66
- ❑ [Enteroviruses isolated from herpangina and hand-foot-and-mouth disease in Korean children.](#) Virol J. 2012 Sep 17;9:205
- ❑ [Molecular epidemiological study of enteroviruses associated with encephalitis in children from India.](#) J Clin Microbiol. 2012 Nov;50(11):3509-12



Más sobre ENTEROVIRUS

- ❑ [Epidemiological and etiological characteristics of hand, foot, and mouth disease in Ningbo, China, 2008-2011.](#) J Clin Virol. 2012 Aug;54(4):342-8
- ❑ [Coxsackievirus B5, associated with neurological hand, foot and mouth disease, China.](#) J Infect. 2012 Aug;65(2):189-91.
- ❑ [Outbreak of hand, foot and mouth disease/herpangina associated with coxsackievirus A6 and A10 infections in 2010, France: a large citywide, prospective observational study.](#) Clin Microbiol Infect. 2012 May;18(5):E110-8
- ❑ [Phylogenetic and molecular characterization of coxsackievirus A24 variant isolates from a 2010 acute hemorrhagic conjunctivitis outbreak in Guangdong, China.](#) Virol J. 2012 Feb 15;9:41
- ❑ [Circulation of multiple enterovirus serotypes causing hand, foot and mouth disease in India.](#) J Med Microbiol. 2012 Mar;61(Pt 3):420-5
- ❑ [Survey of enterovirus infections from hand, foot and mouth disease outbreak in China, 2009.](#) Virol J. 2011 Nov 6;8:508
- ❑ [Molecular typing and epidemiology of enteroviruses in Cyprus, 2003-2007.](#) J Med Microbiol. 2011 Oct;60(Pt 10):1433-40