

# XXVII REUNIÓN DE LA SOCIEDAD ESPAÑOLA DE URGENCIAS DE PEDIATRÍA



SEUP  
SOCIEDAD ESPAÑOLA DE  
URGENCIAS DE PEDIATRÍA

**CUIDÁNDONOS | CUIDÁNDOLOS**

## TIPO PRESENTACIÓN

**¿Puede la ecografía ayudar a disminuir las tasas de infección de las orinas obtenidas por sondaje vesical?**

**Autores:** Guerrero Márquez G, Martín Rodríguez AM, De la Peña García TJ, Blázquez Blázquez A, González Herrero C, Raya Espino A.  
H.G.U. Gregorio Marañón. Madrid.

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# INTRODUCCIÓN: ITU

- La infección del tracto urinario (ITU) es una de las infecciones bacterianas más comunes en la infancia.
- **Diagnóstico niños incontinentes:**
  - Bolsa recolectora
  - Orina al acecho
  - Punción suprapúbica
  - **Sondaje vesical.**

- *Mattoo TK, Shaikh N, Nelson CP. Contemporary Management of Urinary Tract Infection in Children. Pediatrics. 2021 Feb;147(2):e2020012138. doi: 10.1542/peds.2020-012138. Erratum in: Pediatrics. 2022 Oct 1;150(4): PMID: 33479164.*
- *Fisher D. Pediatric Urinary Tract Infection: Practice Essentials, Background, Pathophysiology [Internet]. 2022 [citado 17 de abril de 2023]. Disponible en: [https://emedicine.medscape.com/article/969643-overview?icd=login\\_success\\_email\\_match\\_norm](https://emedicine.medscape.com/article/969643-overview?icd=login_success_email_match_norm)*

# INTRODUCCIÓN: ITU

CLINICAL PRACTICE GUIDELINE Guidance for the Clinician in Rendering Pediatric Care

American Academy  
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

## Reaffirmation of AAP Clinical Practice Guideline: The Diagnosis and Management of the Initial Urinary Tract Infection in Febrile Infants and Young Children 2–24 Months of Age

SUBCOMMITTEE ON URINARY TRACT INFECTION

Para evitar la contaminación, se deben implementar 2 pasos prácticos: (1) se deben desechar los primeros mililitros obtenidos por catéter (dejar que caigan fuera del recipiente de recolección estéril) y solo se debe cultivar la orina posterior

*SUBCOMMITTEE ON URINARY TRACT INFECTION. Reaffirmation of AAP Clinical Practice Guideline: The Diagnosis and Management of the Initial Urinary Tract Infection in Febrile Infants and Young Children 2-24 Months of Age. Pediatrics. 2016 Dec;138(6):e20163026. doi: 10.1542/peds.2016-3026. PMID: 27940735.*

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# INTRODUCCIÓN: ITU

## Catheter-Obtained Urine Culture Contamination Among Young Infants: A Prospective Cohort Study

Hilla Bahat<sup>1,2\*</sup>, Revital Apelman Cipele<sup>1</sup>, Tali Maymon<sup>1</sup>, Ilan Youngster<sup>1,2</sup> and Michael Goldman<sup>1,2</sup>

it. If possible, the first few urine drops should be discarded prior to collecting the sample in the sterile container, especially in girls. This can be challenging when a very small amount of urine is obtained for urinalysis and culture.

## Urinary tract infection

- **In/out catheter:** useful if there is little urine in the bladder, such as after failed clean catch or SPA (discard first few drops of urine if possible to reduce contamination) — contamination rate 10%

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Wolters Kluwer

## Urine collection techniques in infants and children with suspected urinary tract infection

The first few drops of urine obtained may be discarded to prevent contamination of the urine with urethral organisms or cells. A prospective study comparing early and later urine samples obtained by TUBC in 86 children demonstrated that inclusion of the early

for white blood cell



The Royal  
Children's  
Hospital  
Melbourne

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# DISCUSIÓN

ORIGINAL ARTICLE

## Contamination in Urine Samples Collected Using Bladder Stimulation and Clean Catch Versus Urinary Catheterization in Infants Younger Than 90 Days

*Aristides Rivas-García, MD, Jorge Lorente-Romero, MD, María López-Blázquez, MD, Cristina Rodríguez-Jiménez, MD, Cristina Castro-Rodríguez, MD, and María Concepción Míguez-Navarro, MD, PhD*

**Objectives:** The objective of this study was to compare the risk of contamination for urine samples collected from patients younger than 90 days using 2 different techniques: bladder stimulation and “clean catch” (CC) and urinary catheterization (CATH).

**Methods:** A case-control study was carried out in the pediatric emergency room of a tertiary hospital between January 2016 and September 2017. All urine samples collected from patients younger than 90 days by CC or CATH were included. The incidence of contaminated urine samples was compared for both methods, and the risk of contamination was estimated using univariate and multivariate analyses.

**Results:** A total of 473 urine samples were collected, 310 via CATH (65.5%) and 163 via CC (34.5%). The median age was 1.4 months (interquartile range, 0.8–2.1 months), and 54.1% were males. Seventeen patients had a

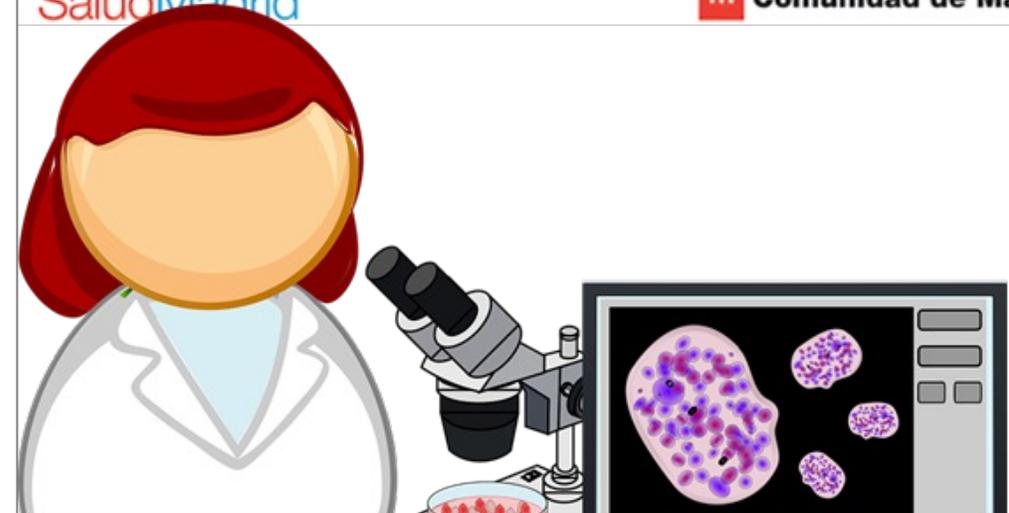
For incontinent patients, we have 4 methods at our disposal to collect urine samples: the perineal urine bag, urinary catheterization (CATH), suprapubic aspiration, and bladder stimulation and “clean catch” (CC). The urine obtained from a perineal bag is considered a contaminated sample, useful for UTI screening after carrying out a urinalysis.<sup>6,7</sup> Urinary catheterization is the method of choice for most centers to obtain urine from incontinent patients because of its ease, few potential complications, and low contamination rates. It is, however, an invasive and painful technique for the patient.<sup>6</sup> Suprapubic aspiration, which is preferably carried out using ultrasound guidance, is a widely accepted technique to obtain sterile urine from neonates and infants. Nevertheless, its invasiveness and potential complications can make its

- 2017.
- 310 muestras.
- Tasa de contaminación: 1,6%



Hospital General Universitario  
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Comunidad de Madrid

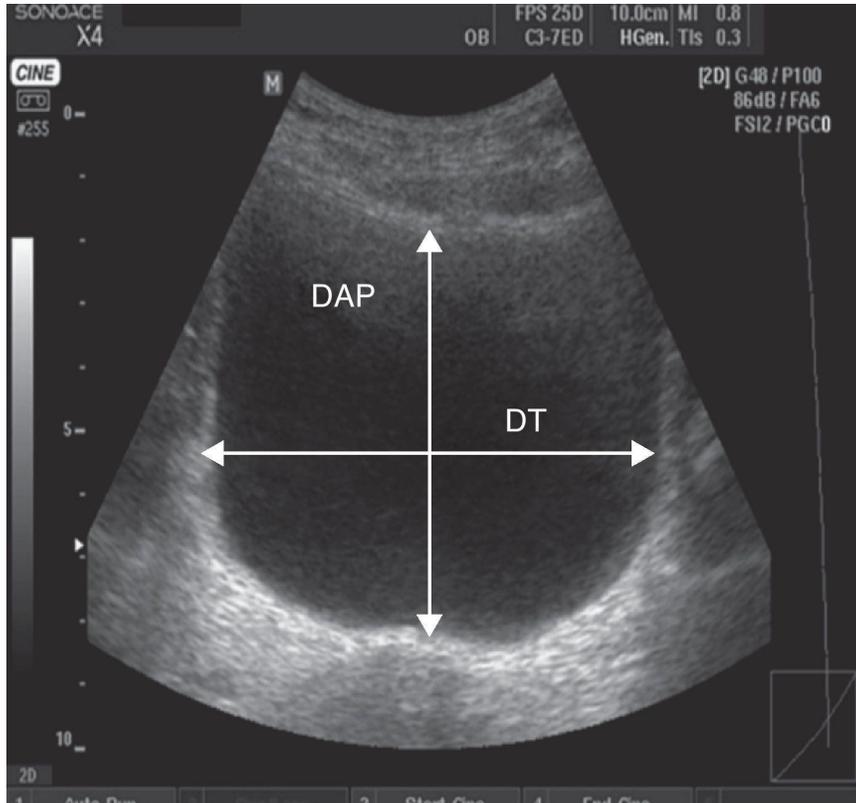


- 2022.
- 536 muestras.
- Tasa de contaminación: 3,9 %

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# OBJETIVO



An Pediatr (Barc). 2013;78:321-5

**VALORAR SI EL USO DE LA ECOGRAFÍA VESICAL (EV), al facilitar la decisión de DESECHAR LAS PRIMERAS GOTAS** obtenidas por SV en niños incontinentes, **DISMINUYE EL PORCENTAJE DE UROCULTIVOS CONTAMINADOS.**

# METODOLOGÍA

- Cuasi experimental pre-post test.
- 07/21 - 11/22.
- Turno tarde (personal formado en ecografía vesical).
- Tamaño muestral: se estableció en base a estudios similares.
- Aprobación CEIC HGUGM.

## CRITERIOS INCLUSIÓN:

- 0 a 36 meses necesidad de SV.
- Sin alteración vías urinarias o genitales externos.
- No tto. antibiótico 7 días previos.

## CRITERIOS DE EXCLUSIÓN:

- Barrera idiomática.
- Niños prioridad 1.
- No firma consentimiento.

# PROCEDIMIENTO

## Realización procedimiento:

1. Ingesta 25-30 minutos previos.
2. Limpieza según protocolo HGUGM.
3. Ecografía vesical/desecho primeras gotas SÍ/NO.
4. SV (desechando sonda si no éxito directo).

# RESULTADOS: pacientes

- n= 113 niños: 68 mujeres (60,18%) y 45 hombres (39.82%).

CARACT.	ECO NO	ECO SÍ	
HOMBRE	27 (24%)	18 (16%)	<b>p= 0.2964</b>
MUJER	34 (30%)	34 (30%)	
TOTAL	61 (54%)	52 (46%)	
EDAD (MESES)	4 (IQR 1-14)	6,5 (IQR 2-16,5)	<b>p= 0.2178</b>

# RESULTADOS: MOTIVO DE CONSULTA Y DX FINAL

Motivo de consulta	n (%)
<b>Fiebre</b>	74 (65.49%)
<b>Disuria/polaquiuria</b>	8 (7,08%)
<b>Irritabilidad</b>	6 (5,31%)
<b>Hiporexia</b>	6 (5,31%)
<b>vómitos</b>	5 (4,42%)
<b>Otros</b>	14 (12,39%)
<b>Total</b>	113

Diagnóstico final	n (%)
<b>ITU/sospecha ITU</b>	38 (33,63%)
<b>Fiebre sin foco</b>	28 (24,78%)
<b>Infección vías altas</b>	14 (12,39%)
<b>Vómitos</b>	5 (4,42%)
<b>Irritabilidad</b>	5 (4,42%)
<b>COVID</b>	5 (4,42%)
<b>Total</b>	113

# RESULTADOS

- Intentos hasta SV:
  - 1º intento: 101 (89%).
  - 2º intento: 12 (11%).

Años de experiencia	Eco No Mediana (IQR)	Eco Sí Mediana (IQR)	Prueba de Welch.
Como enfermera	<b>6</b> (IQR 2-30)	<b>25</b> (IQR 15-30)	p-value = 0.001992
Experiencia en urgencias	<b>3</b> (IQR 0-15)	<b>19</b> (IQR 14-20)	p-value = 0.000002008

# RESULTADOS MICROBIOLÓGICOS POR MÉTODO

Ecografía/desecho	Negativo	Positivo	Contaminado	p
No	44 (38,9%)	15 (13,3%)	2 (1,8%)	p= 0.5862
Sí	40 (35,4%)	12 (10,6%)	0	

- E. Coli: 23 (85,2%)
- Proteus Miriabilis: 1 (3,7%)
- Klebsiella Pneumoniae: 2 (7,4%)
- Enterobacteria aérogenes: 1 (3,7%)

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- Menor a la contaminación global del servicio del año 2022 (3,9%)
- Similar a la contaminación obtenida por Rivas et.al año 2017 (1,6%)

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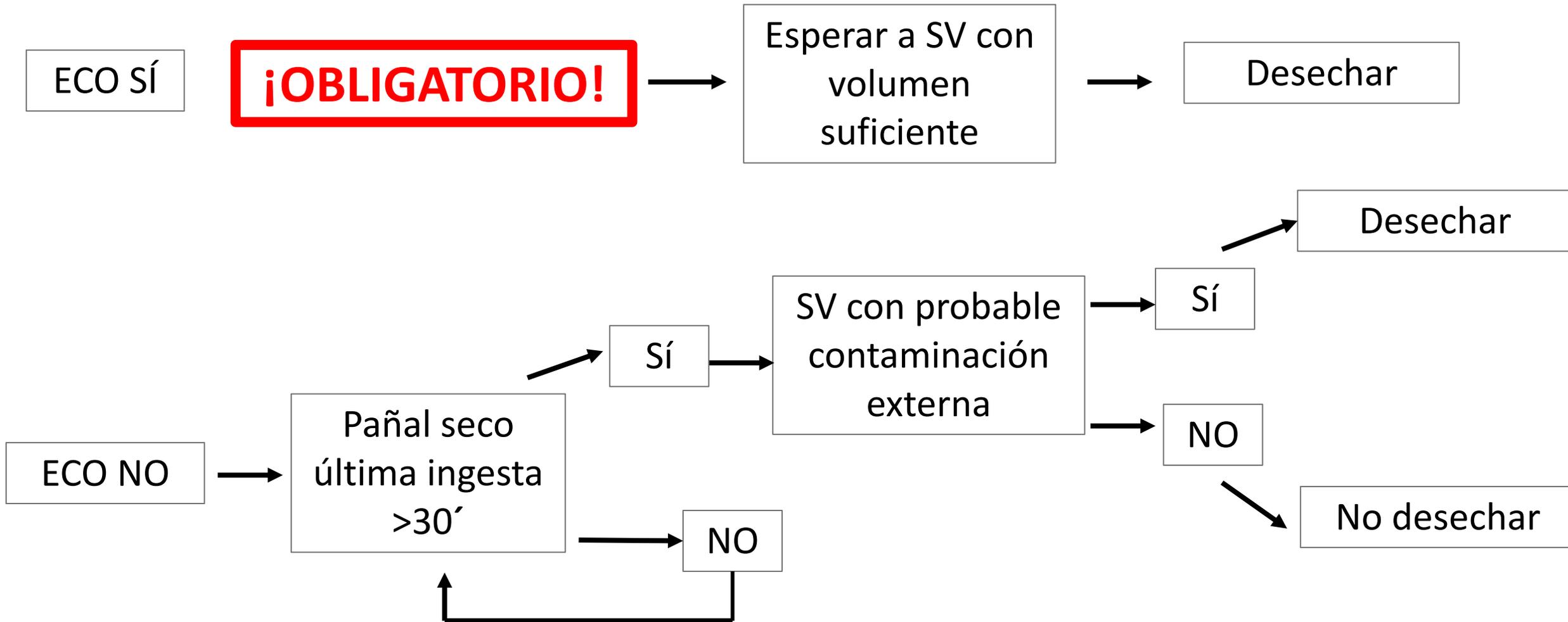
### • Tasa de contaminación:

- TM: 2,9%
- TT: 0,8%
- TN: 1,7%

# CONCLUSIÓN

- Aunque la contaminación de orina solo se dio en el grupo donde no se desecharon las primeras gotas (Grupo NO ECO) →  $p > 0,05$
- La experiencia de los enfermeros parece ser un factor importante.

# CONCLUSIÓN



Los autores declaran que  
no tienen conflictos de  
interés en la realización de  
este estudio

Muchas  
gracias

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