Medical Xpress

New test aids decision between intravenous and oral antibiotics for childhood infection

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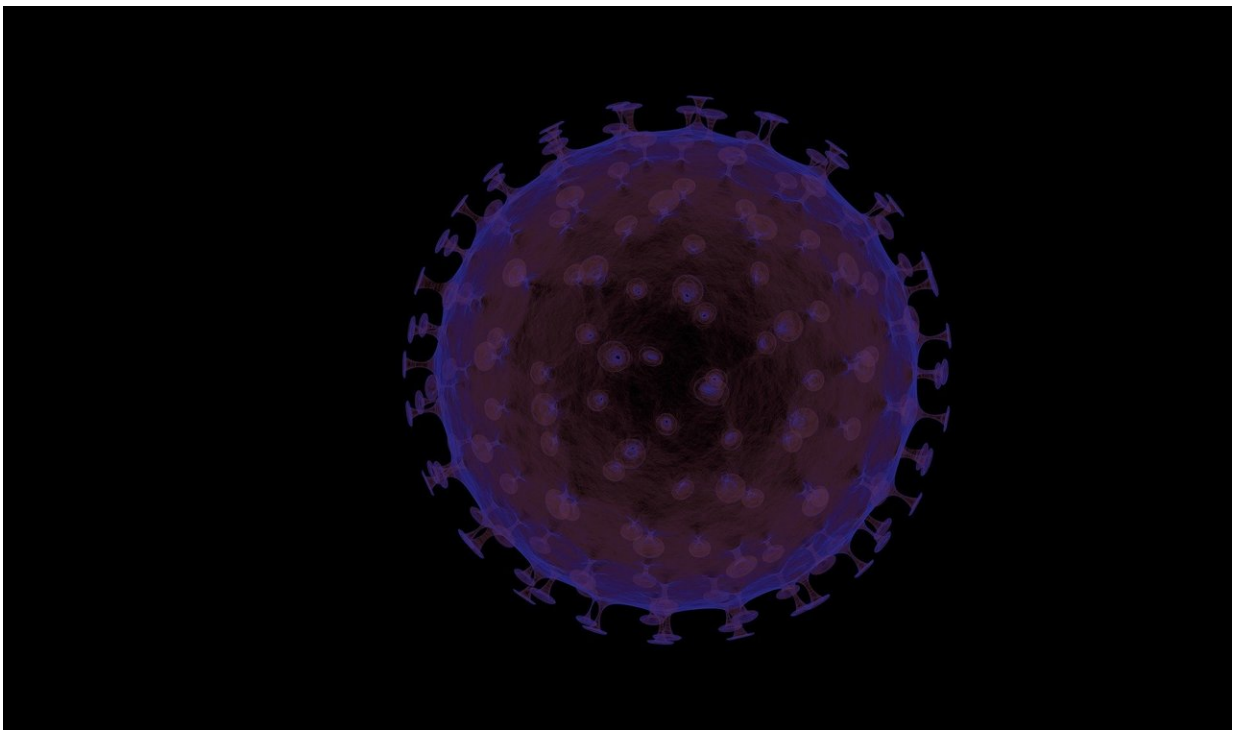

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A simple new test developed at the Murdoch Children's Research Institute and University of Melbourne will help clinicians decide whether to use oral or intravenous antibiotics to treat childhood infections.

Developed and validated in children attending The Royal Children's

Hospital with a common skin infection, the Melbourne ASSET Risk Score is the first clinical risk score to help clinicians decide between IV and oral antibiotics in children.

The findings are published today in the journal *Pediatrics*.

Lead author and MCRI Ph.D. student Dr. Laila Ibrahim said clinicians often faced a difficult choice in how best to treat childhood infections where antibiotics are needed.

"Using IV antibiotics when they're not needed means unnecessary hospitalisations, risk of complications and a financial burden on families and hospitals," Ms Ibrahim said.

"Using oral antibiotics when IV is required risks children becoming more unwell, hence the need to standardise the decision between the two when treating childhood infections."

The researchers, led by senior author and MCRI Clinician-Scientist Fellow Associate Professor Penelope Bryant, developed the risk score with 285 children aged six months to 18 years presenting with cellulitis; a common skin infection for which the choice between oral and IV antibiotics is unclear.

Using a score out of seven, with four being the cut-off for IV use, the assessment examines the child's risk of sepsis, hand size, swelling, eyes and muscle tenderness.

While developed for cellulitis, the researchers said the risk score, which uses features that can be observed in the child and no extra invasive tests, could be adapted for other settings and different childhood infections.

The next step will be testing the assessment in children at other hospitals.

"The use of the Melbourne ASSET Score will reduce unwarranted variation in care and improve outcomes forchildren with infections requiring antibiotics," Associate Professor Bryant said.

More information: Laila F. Ibrahim et al. Development and Validation of a Cellulitis Risk Score: The Melbourne ASSET Score, *Pediatrics* (2019). DOI: 10.1542/peds.2018-1420

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