INTRODUCTION

- This guide provides recommendations for **INITIAL EMPIRIC** antimicrobial therapy in pediatric patients at the Montreal Children's Hospital. Antimicrobial therapy MUST be adjusted according to microbiologic results and clinical response.
- Unless specified, dosing is provided for children older than one month of age. **Please refer to the MCH formulary for detailed dosing guidelines in neonates (term, pre-term).** Dosing may also need to be adjusted according to individual patient characteristics (e.g. renal function, liver function, use of extracorporeal membrane oxygenation, etc.).
- Maximum doses are provided for reference purposes in the guide. Please note that these maximum doses are not strict and can be modified as per Lexicomp.
- Route of administration is intravenous unless otherwise specified.
- Duration of therapy is provided only when it is supported by provincial and/or national and/or international guidelines or reference textbooks or high-quality literature on the infectious condition. Duration of therapy may vary according to clinical response, results of laboratory tests/imaging studies, source control, and individual patient characteristics.
- Whenever sepsis is suspected or when intravenous antibiotic therapy will be administered, blood cultures should be obtained. Otherwise, bacterial cultures of affected site(s) should be obtained **PRIOR TO** initiating antibiotic therapy, when indicated and possible.
- **In the following table, penicillin allergy refers to IgE-mediated reactions** (immediate, usually within 1 hour, onset of urticaria and/or angioedema and/or wheezing and/or anaphylaxis) **and non-severe delayed hypersensitivity reactions** (e.g. maculopapular rash). In general, a non-penicillin beta-lactam (with a different side chain than the penicillin involved) can be used in these cases. In presence of these reactions in a child below 3 months of age, a pediatric infectious diseases (ID) consult may be indicated.
- If the reaction was IgE-mediated, the first dose should be given via a supervised graded challenge (please consult Allergy and Immunology for further guidance).
- For **severe, non-IgE-mediated hypersensitivity reactions to penicillin** (e.g. Stevens-Johnson syndrome, toxic epidermal necrolysis, drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome, acute generalized exanthematous pustulosis, hemolytic anemia, autoimmune hepatitis, interstitial nephritis) **all beta-lactams should be avoided**.
- For further details on alternative antibiotics to use in cases of penicillin allergy, please refer to the INESSS Decision Support Tool for Penicillin-related Allergies at the following link: https://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/Medicaments/Outil_aide-decision_allergies-EN_VF.pdf
- Hosts are deemed immunocompetent unless otherwise stated. For infections occurring in immunocompromised hosts, a pediatric infectious diseases (ID) consult may be indicated.

Acknowledgments

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