



COVID-19 in the endemic era: patient management

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การอบรมระยะสั้น สมาคมโรคติดต่อในเด็กแห่งประเทศไทย

วันที่ 15 กุมภาพันธ์ 2566



Outline

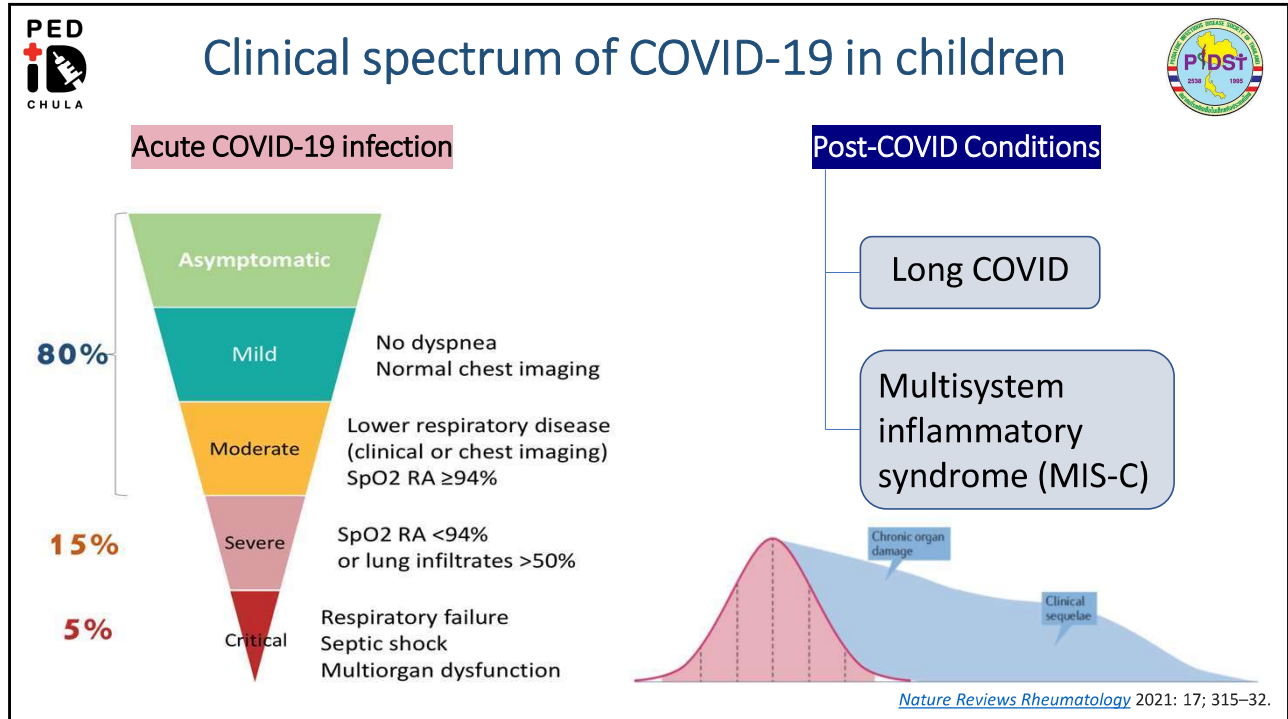


COVID-19 in the endemic era: patient management

- Clinical spectrum of COVID-19 in children
- General principle
- Management of acute COVID-19
- Management of MIS-C



handout



Acute COVID-19 infection in children

At high risk for severe illness from COVID-19

- Infants (age <1 year)
- Certain underlying medical conditions

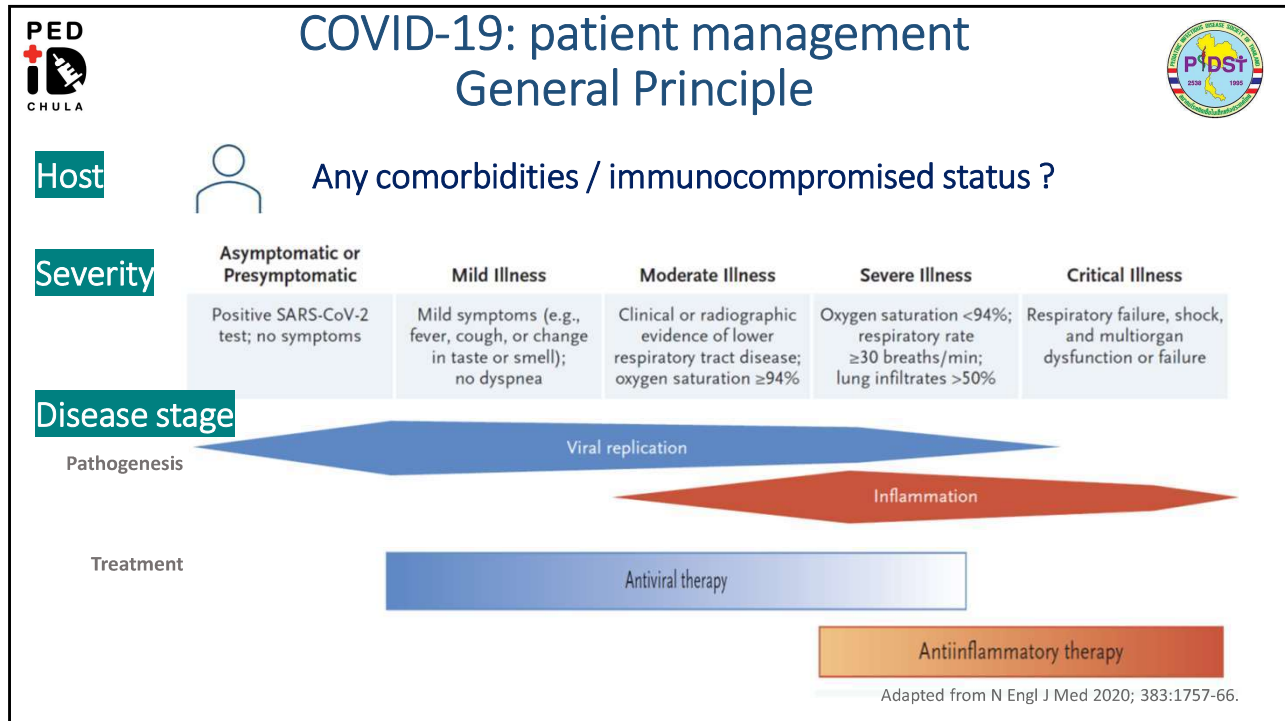
CARDIOVASCULAR DISEASE	CHRONIC LUNG DISEASE	OBESITY	IMMUNO-SUPPRESSION	NEUROLOGIC CONDITIONS	GENETIC CONDITIONS	DIABETES

*compared to those with no reported underlying health conditions

Children vs adults

Household contacts	GI symptoms 20-25%
Milder diseases	CXR interpretation
Less mortality	

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/pediatric-hcp.html>. COVID-19 Treatment Guidelines. NIH.



Management of acute COVID-19 in children

Thai Guideline (Children)

Asymptomatic	
Supportive and symptomatic management	
Symptomatic without pneumonia and no risk factors	
Supportive and symptomatic management	
Consider favipiravir (5 days)	
At risk or pneumonia (not severe)	
Remdesivir (3 days)	<ul style="list-style-type: none"> • Age < 1 year • Chronic medical conditions • Immunocompromised host • Obesity
Favipiravir (5 days)	
Tixagevimab/cilgavimab (age > 12 y, BW > 40 kg)	
Pneumonia	
Remdesivir (5-10 days)	
Corticosteroids	

Favipiravir

Day 1: 35 mg/kg/dose BID
Day 2-5 (or 10): 15 mg/kg/dose BID

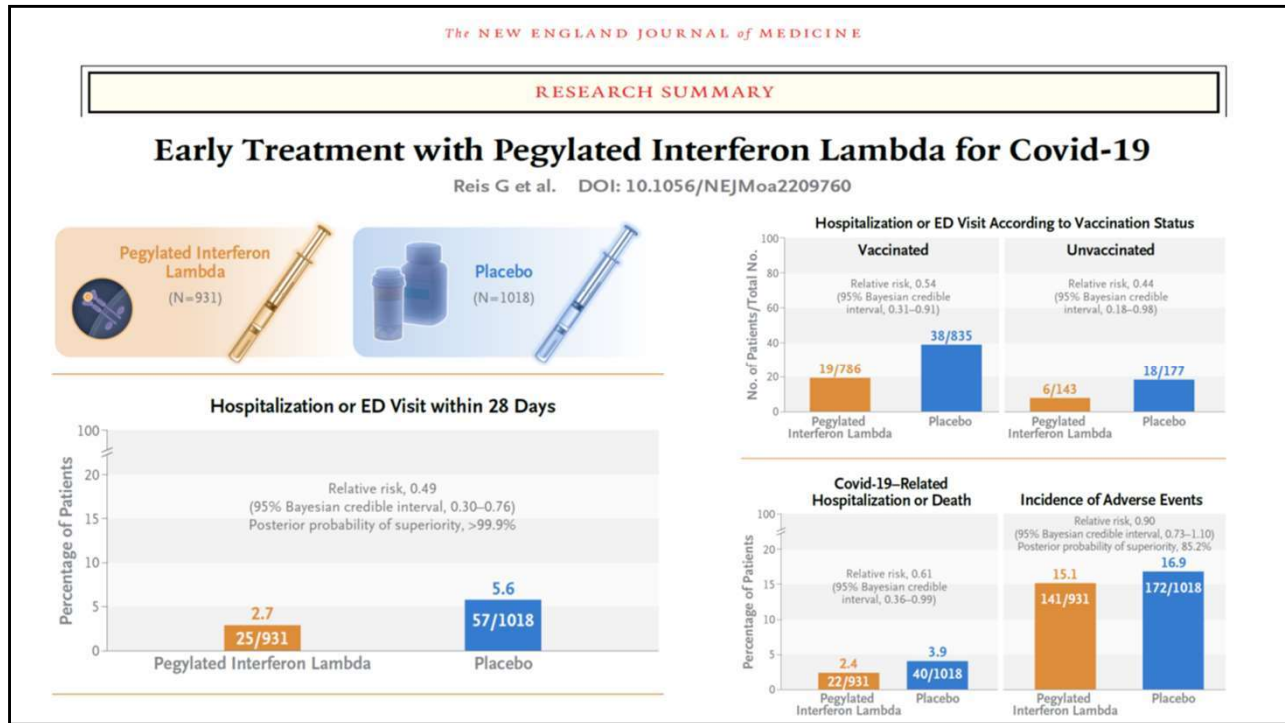
Remdesivir


Day 1: 5 mg/kg IV OD
Day 2-5 (10): 2.5 mg/kg/ IV OD

Corticosteroids


- High-flow oxygen, NIV, invasive mechanical ventilation, ECMO
- Dexamethasone 0.15 mg/kg/dose (maximum dose 6 mg OD for up to 10 days)

COVID-19 Treatment Guidelines Panel. COVID-19 Treatment Guidelines. NIH.
แนวทางการปฏิบัติ COVID-19 กรมการแพทย์ กระทรวงสาธารณสุข 2565





Hyperinflammatory in Pediatric COVID-19



Anti-inflammatory agents

- Corticosteroids
- Immunomodulators

Children aged ≥ 2 years who do not have oxygenation improvement within 24 hours after received dexamethasone

	Tocilizumab	Baricitinib
Mechanism of action	Interleukin-6 inhibitors	Janus kinase inhibitors
Dosage and administration	IV infusion (once) Adult: 8 mg/kg (up to 800 mg) Children BW<30kg: 10-12 mg/kg Children BW>30kg: 8 mg/kg	Oral before meal > 9 yr : 4 mg OD 2-8 yr : 2 mg OD Duration: 14 days or until hospital discharge
Adverse reactions	Constipation, anxiety, diarrhea, insomnia, hypertension, nausea, elevated liver enzymes, neutropenia, thrombocytopenia	Thrombosis, nausea, elevated liver enzymes, neutropenia, lymphopenia, anemia

แนวทางการปฏิบัติในการวินิจฉัย และดูแลรักษา ผู้ป่วยอาการอักเสบหลายระบบที่เกี่ยวข้องกับโรคโควิด-19 ในเด็ก ในประเทศไทย ฉบับวันที่ 8 เมษายน 2565

NH COVID-19 Treatment Guidelines.



Post-COVID Conditions in Children



'Late sequelae as sequelae that extend >4 weeks after initial infection'

Long COVID

- Ongoing symptomatic COVID-19 (4-12 weeks)
- Post-COVID-19 syndrome: > 12 weeks

Age	Symptoms at 5 weeks
2–11 years:	12.9%
12-16 years:	14.5%
17-24 years:	17.1%



Anxiety/depression
Sleep disturbances
PTSD
Cognitive disturbances (brain fog)
Headaches

Multiorgan Effects of COVID-19

Multisystem inflammatory syndrome in children (MIS-C)

- Fever
- Multiorgan dysfunction
- Inflammation: ↑ inflammatory markers
- Link to SARS-CoV-2

<https://www.nice.org.uk/guidance/ng188>, <https://www.ons.gov.uk>, <https://www.euro.who.int>

Henderson LA, et al. ACR MIS-C Version 3. *Arthritis Rheumatol* 2022;74:e1-20.



Multisystem inflammatory syndrome in children (MIS-C)



Systematic review

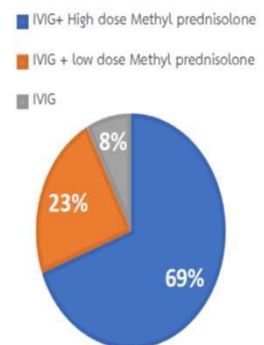
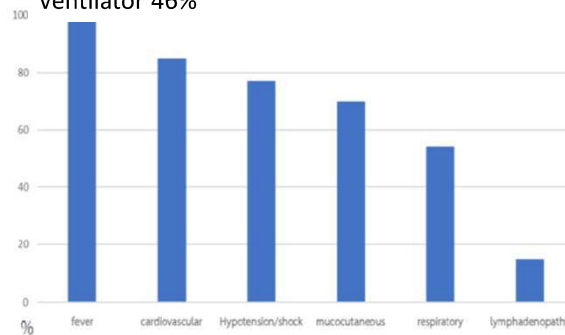
PICU admission 58-67%
Inotropes 40%
Ventilator 15%
ECMO 2%
Mortality 0.8-2%

Pediatr Infect Dis J 2022; 41: e6-e9.
MMWR Recomm Rep 2022; 71: 1–14.

King Chulalongkorn Memorial Hospital

September 2021 – October 2022

N =13, 80% no underlying diseases
PICU admission 54%
Inotropes 75%
Ventilator 46%



Courtesy of Ped ID fellows, KCMH