SARI CLINICAL CARE TRAINING

TRIAGE AND EARLY RECOGNITION OF PATIENTS WITH SARI

World Health Organization

HEALTH EMERGENCIES programme

Learning objectives

At the end of this lecture, you will be able to:

- Describe general principles of managing the critically ill patient with severe acute respiratory infection (SARI).
- Describe IPC interventions at triage
- Describe triage tools.
- Recognize patients with uncomplicated influenza-like illness (ARI) that can go home.
- Recognize patients with SARI that need emergent care and hospitalization (including ICU admission).
- Coordinate safe patient transfer.

Principles of caring for the critically ill SARI patient

- Apply appropriate IPC precautions immediately.
- Recognize the critically ill patient early.
- Treat the underlying aetiology as soon as possible.
- Treat with evidence-based, supportive therapies as soon as possible.
- Monitor-record-interpret-respond.
- Deliver quality care.

If a patient is suspected to have a novel or emerging viral infection, notify health officials as soon as possible.

DANGERS

DIAGNOSIS

TREATMENT

TRANSPORT

Screen: epidemiologic history

- Suspect COVID-19 in a patient with SARI that
  - Resides or has traveled to countries with ongoing human or animal infections.
  - Exposure to live or dead animals (i.e. birds, swine, camels).
  - Close exposure to patient with SARI of unclear etiology.

See WHO website for current case definitions for nCoV infection https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Apply appropriate IPC at triage (any ARI)

- Apply droplet precautions
- Give the suspect patient with ARI a medical mask
- Instruct the patient to practice respiratory hygiene and hand hygiene and to avoid movements within the facility
- Locate the suspect patient in separate area
- Keep at least 1 m distance between patients



Aim to avoid transmission to other patients and to health care workers. But do not delay medical treatments

If suspect COVID-19, avian influenza, MERS-CoV or SARS-CoV,

- **Add contact to droplet precaution measures.**
  - HCW wears gown, gloves, medical mask and eye protection when examining patient.
  - Use dedicated patient equipment when possible, (such as stethoscopes) or wash and disinfect between patients.
- **Add airborne precautions** if there is an emergent need for intubation or cardiopulmonary resuscitation

Triage (1/2)

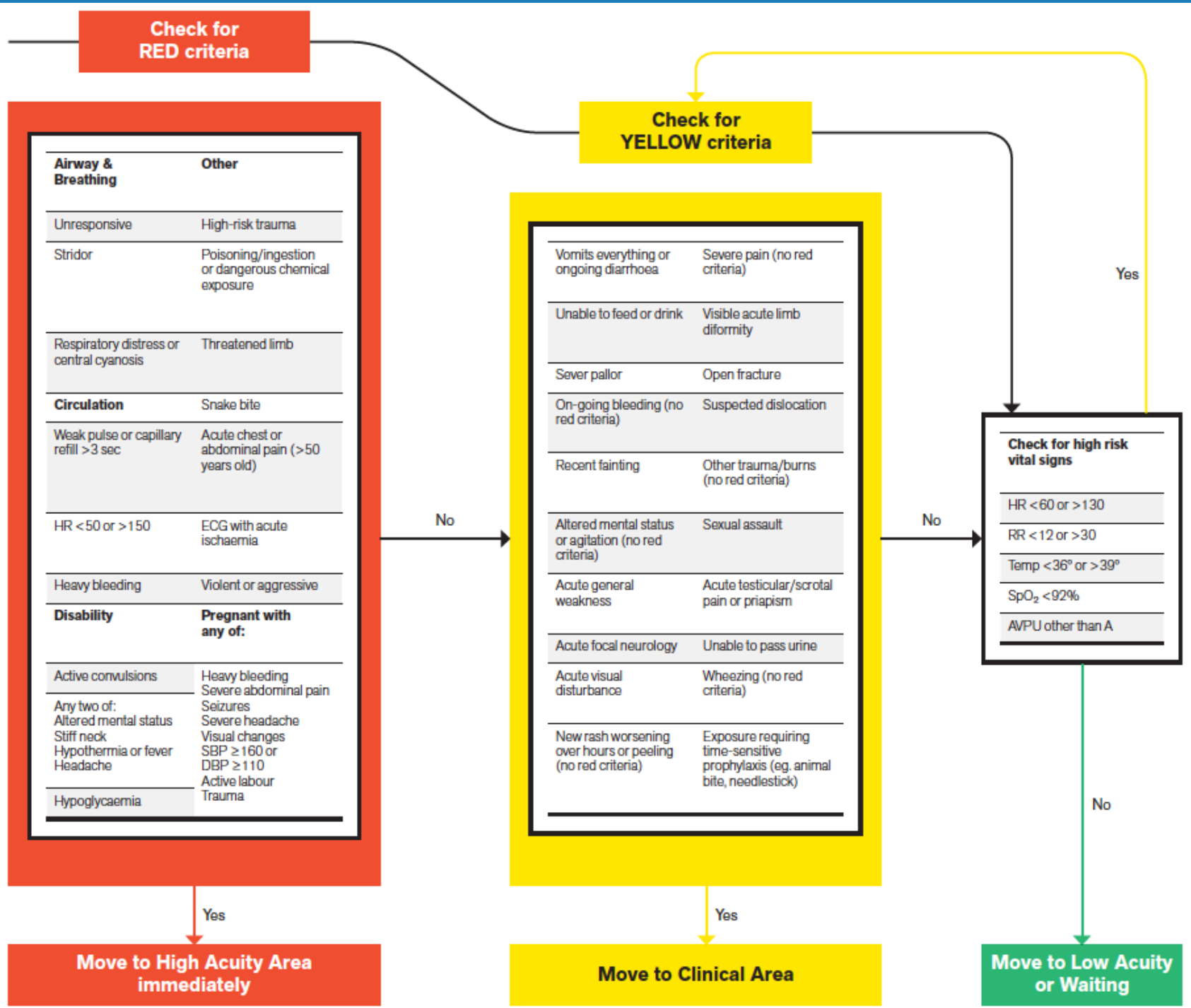
- Conduct triage at the sick patient's first point of contact with health care system.

- Pre-hospital stage:
  - ambulance
  - clinic.

- Hospital stage:
  - admissions ward
  - emergency area or department, accident and emergency department, casualty area
  - general ward.

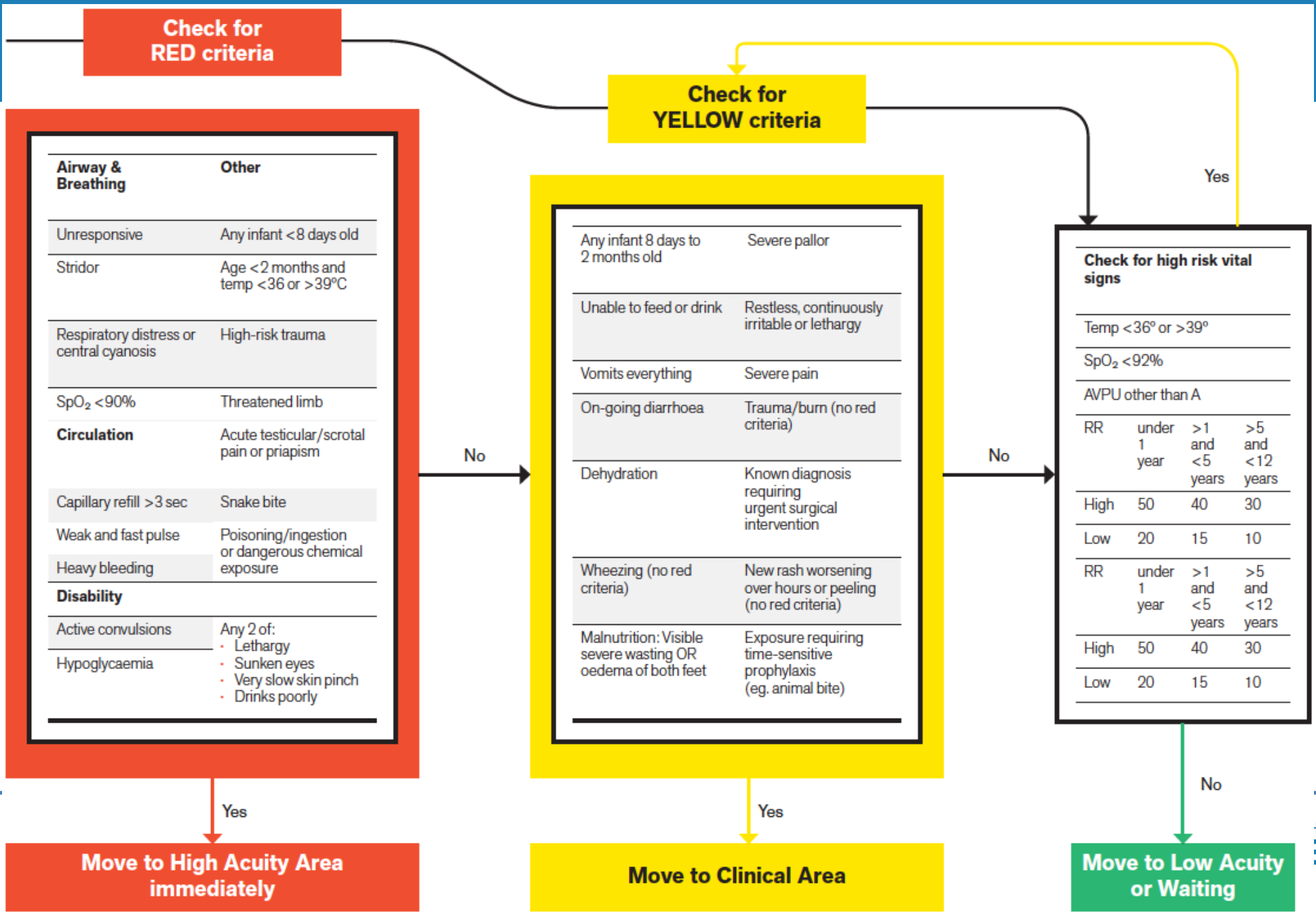
Triage (2/2)

- **Prioritize and sort** patients based on their severity of illness and need for immediate care.
  - Use standardized triage tools to ensure reliability and valid sorting of patients
  - Avoid “under-triage” and “over-triage”.
  - Identify high priority patients that need immediate care.



WHO – ICRC Integrated Triage Tool ⩾ 12 years

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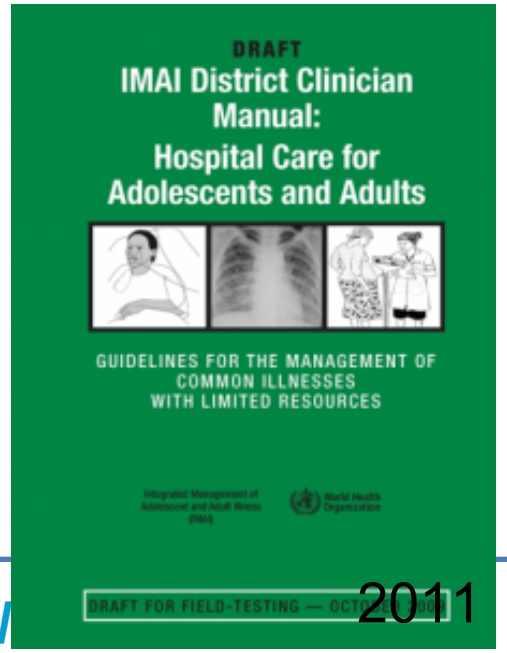


WHO – ICRC Integrated Triage Tool < 12 years

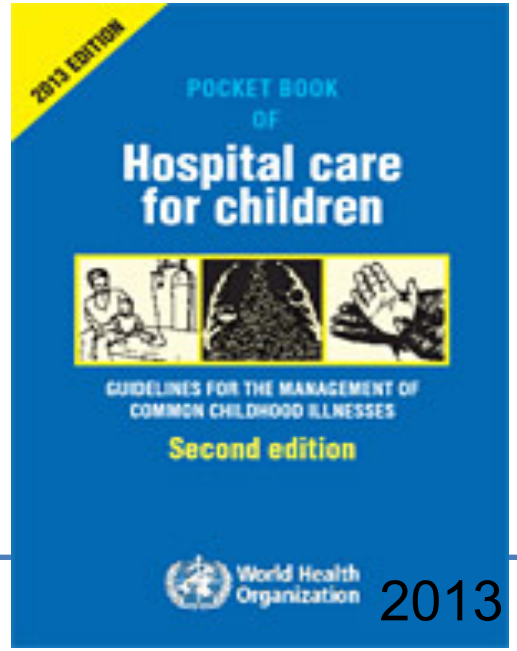
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WHO hospital care handbooks

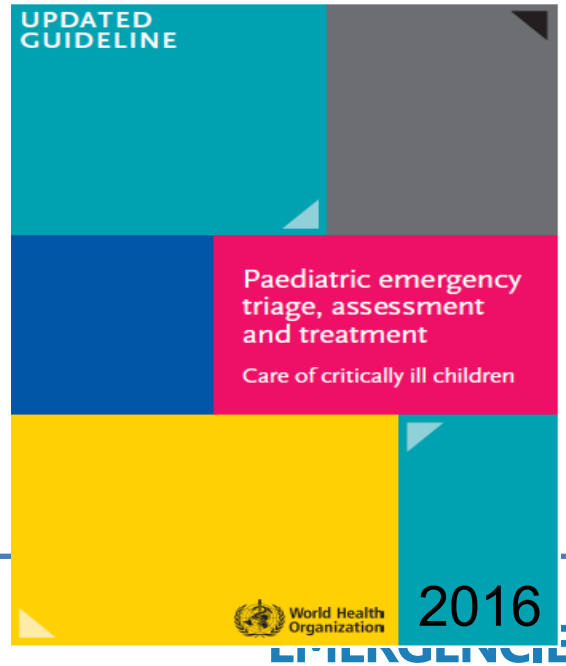
- Emergency treatments for clinical use
  - IMAI quick check
  - Pocket book
  - IMCI emergency triage, assessment and treatment.



2011



2013



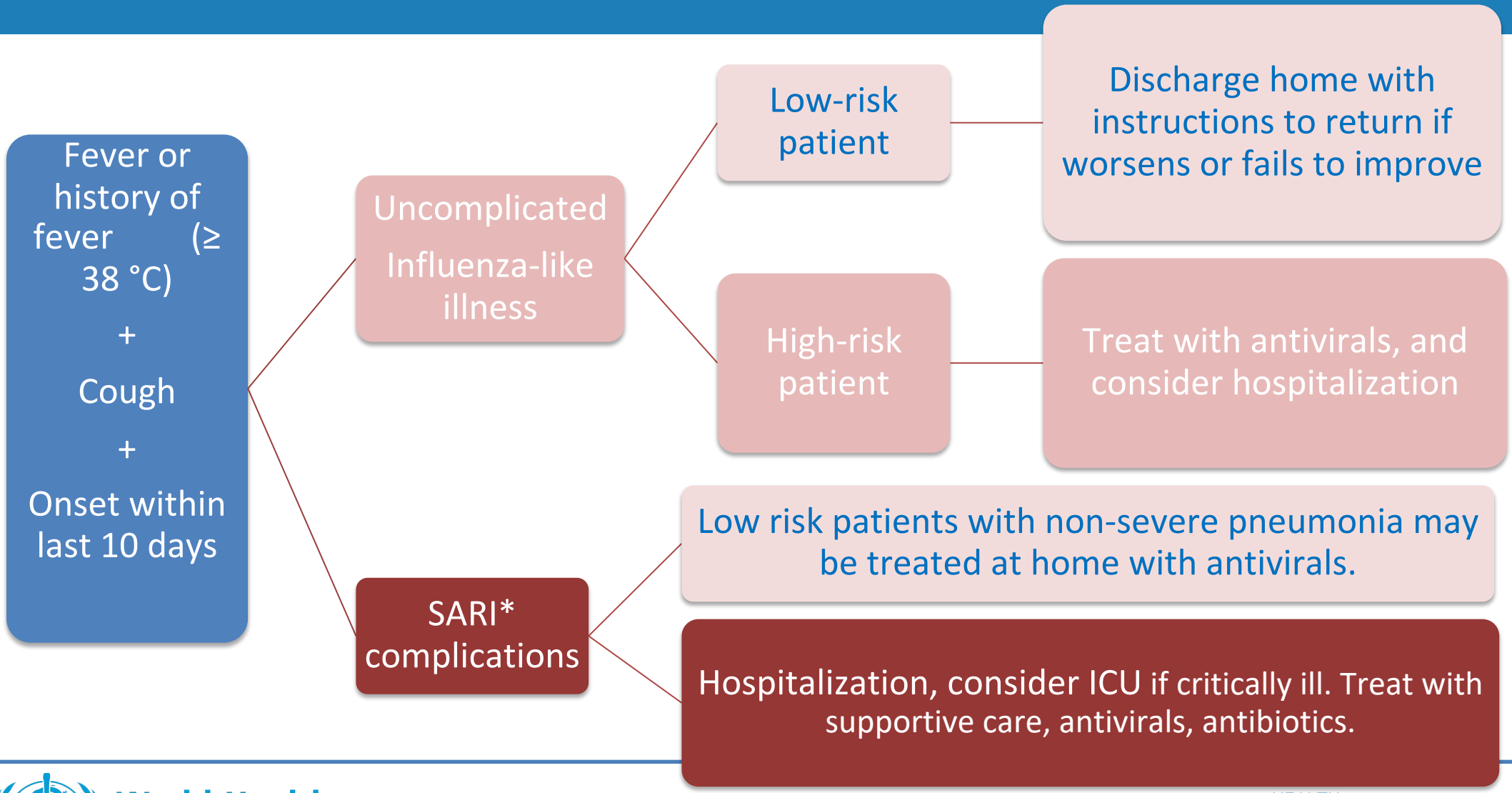
2016

Risk factors for severe disease (influenza)

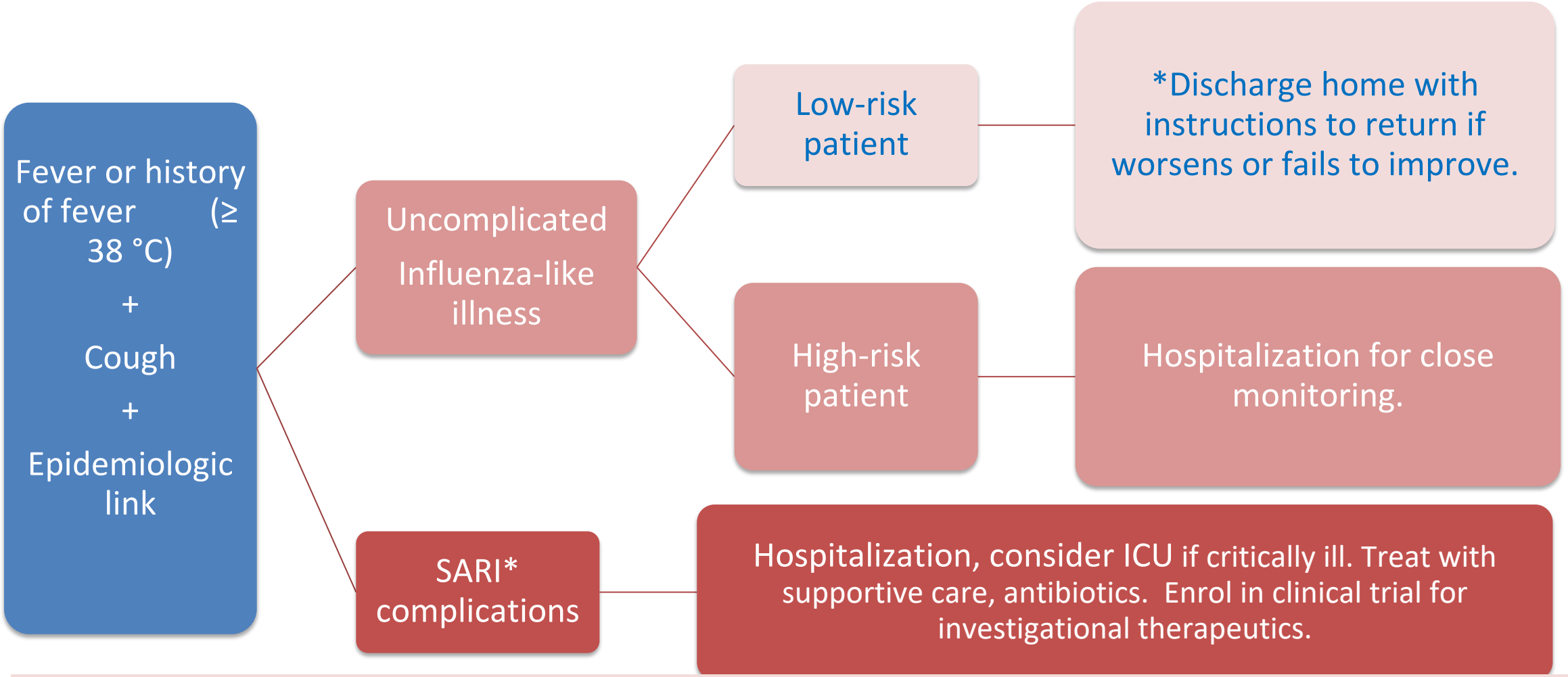
- **Comorbidities**
  - **cardiovascular disease** (cardiac failure)
  - **pulmonary** disease (asthma and COPD)
  - **metabolic disease** (diabetes)
  - **kidney disease**
  - **hepatic disease**
  - **haemoglobinopathies**
  - **chronic neurologic conditions** (neuromuscular, neurocognitive and seizure disorders).
- **Extremes of age**
  - **infants and young children** (< 2 years)
  - **elderly** (≥ 65).
- **Immunosuppressive conditions**
  - **HIV, immunosuppressive medication, malignancy.**
- **Special situations**
  - **children receiving chronic aspirin therapy**
  - **pregnancy (up to 2 weeks' postpartum).**

High risks groups should be considered for hospitalization even with mild disease, for close monitoring to detect deterioration and treatment

Assess patients with ARI (during seasonal influenza)



Assess patients with ARI (suspect COVID-19)



* Home care an be considered in settings when health system is unable to isolate patients in health care settings. Use WHO home care guidance: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance

Uncomplicated illness

- Symptoms are non-specific:
  - fever and cough within 10 days
  - sore throat, nasal congestion or rhinorrhea
  - headache, muscle pain or malaise
  - diarrhea or vomiting.
  - Elderly or immunosuppressed patients may present with atypical symptoms and may not have fever.

- Patient with uncomplicated disease are **without** signs of:
  - dehydration
  - shortness of breath
  - Sepsis.

Clinical symptoms suggestive of SARI

- Decreased activity, dizziness, decreased urine output.
- Increasing breathing difficulties, cyanosis, bloody or coloured sputum, chest pain, noisy breathing.
- Confusion, lethargy, coma, weakness, seizures.
- Persistent high fever and other symptoms beyond 3 days without signs of resolution.
- Children may also present with poor feeding, excessive diarrhea and vomiting.

Educate community members that if they develop any of these symptoms to seek medical care.

Clinical signs suggestive of SARI

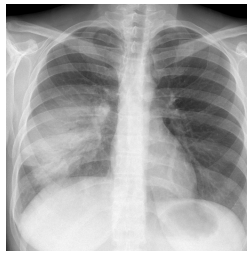
- Respiratory distress:
  - fast breathing, shortness of breath, accessory muscle use, cyanosis, grunting, severe chest indrawing, wheezing, stridor.
- Cardiovascular/circulatory instability
  - delayed capillary refill, weak pulse, cool extremities, reduced urine output, low blood pressure.
- Neurological instability
  - alteration of mental status, seizures, irritability, confusion, lethargy.
- Severe dehydration, stridor
  - sunken eyes, very low skin pinch, unable to drink, lethargy.

First responders should recognize these signs and symptoms, start available emergency care and refer the sick patient for hospitalization.

Clinical syndromes that require hospitalization

- Severe pneumonia (later lecture)
- Sepsis (later lecture)
- Croup and tracheitis
- Severe dehydration
- Secondary bacterial co-infections
- Exacerbations of chronic diseases (i.e. COPD, CHF, DM)

Severe pneumonia



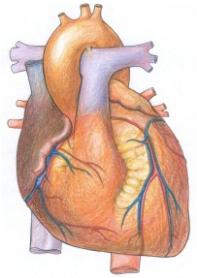
Sepsis



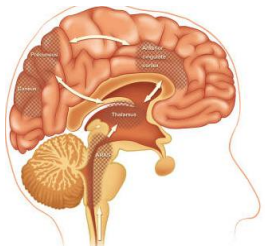
Acute kidney injury



Myocarditis



Encephalitis



© Dr. Harry Shulman http://chestatlas.com/cover.htm ,
© Janet Fong http://www.aic.cuhk.edu.hk/web8/Anatomy%20brain%20diagrams.htm,
Sally Fong http://www.aic.cuhk.edu.hk/web8/Hi%20res/Kidney%20cross%20section.jpg,
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Caring for SARI patient at pre-hospital setting

- ❑ Apply IPC interventions at all times.
- ❑ Provide available emergency care; call for help.
- ❑ Refer to local emergency medical service (EMS) protocols.
- ❑ Arrange for safe transfer to hospital with isolation and ICU capacity.

Caring for SARI patient in the emergency area of hospital

- ❑ Apply IPC interventions at all times.
- ❑ Provide available emergency care, call for help.
- ❑ Refer to local ward and ICU admission criteria.
- ❑ Arrange for safe admission to ward or ICU.

Emergency care

- Based on clinical condition and available resources:
  - administer oxygen +/- advanced ventilatory support
  - insert peripheral IV and start fluid therapy (if in septic shock)
  - give appropriate antimicrobial therapies before transfer
  - obtain appropriate laboratory testing (i.e. respiratory tract swabs, blood cultures, chest radiograph, CBC).

Do NOT delay life-saving treatments.
Early treatment reduces mortality.

ICU admission



- ICUs care for critically ill patients
  - impending or ongoing acute, life-threatening organ dysfunction
  - need intensive and continuous monitoring
  - need intensive therapies that cannot be delivered on the general ward (i.e. oxygen therapy, ventilation)
  - depending on local resources, many SARI patients will require ICU admission.

Do NOT delay ICU admission.
Delay is associated with higher mortality.

©

Safe patient transfer

- Ensure IPC measures are always applied.
- Ensure appropriate diagnostics and emergency treatments have been given and patient is stable and ready for transport.
- Ensure all monitors and ongoing treatments are secured and can be maintained during transport.
- Ensure appropriate documentation and handover of care to next responsible clinicians.
- Ensure the responsible health care worker is prepared.

Summary

- At triage, identify patients with ARI and apply appropriate IPC precautions to prevent spread of illness to health care workers or other patients.
- Triage all patients at first point of contact with health care setting with standardized triage tools.
- Recognize patients with SARI that need emergent care, start emergency interventions and arrange for hospitalization.
- Clinical syndromes that require hospitalization include-severe pneumonia, sepsis, severe dehydration or exacerbation of chronic disease.
- Patients with SARI that are critically ill should be transferred safely and in a timely fashion to an ICU for intensive monitoring and care that cannot be delivered on the general ward.

Acknowledgements

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