Screening, Triage and Patient Flow

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OBJECTIVES

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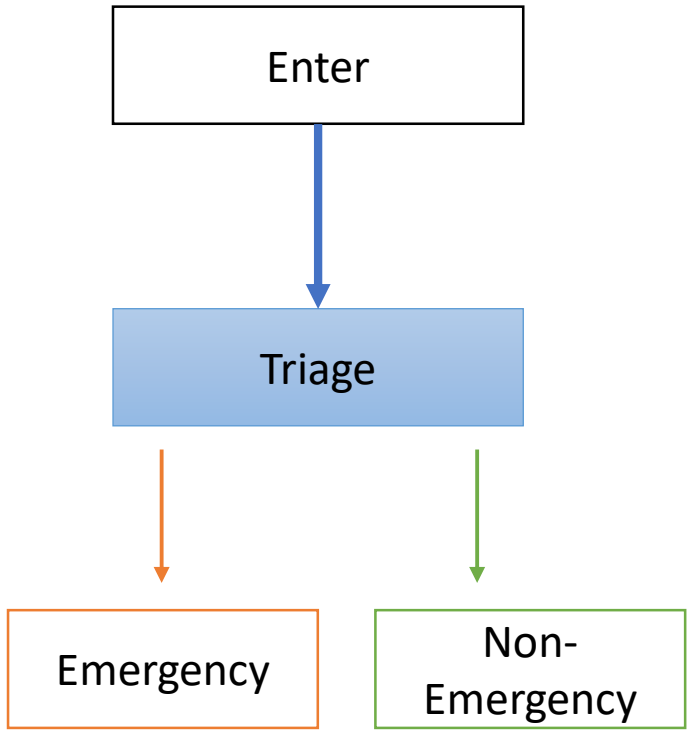
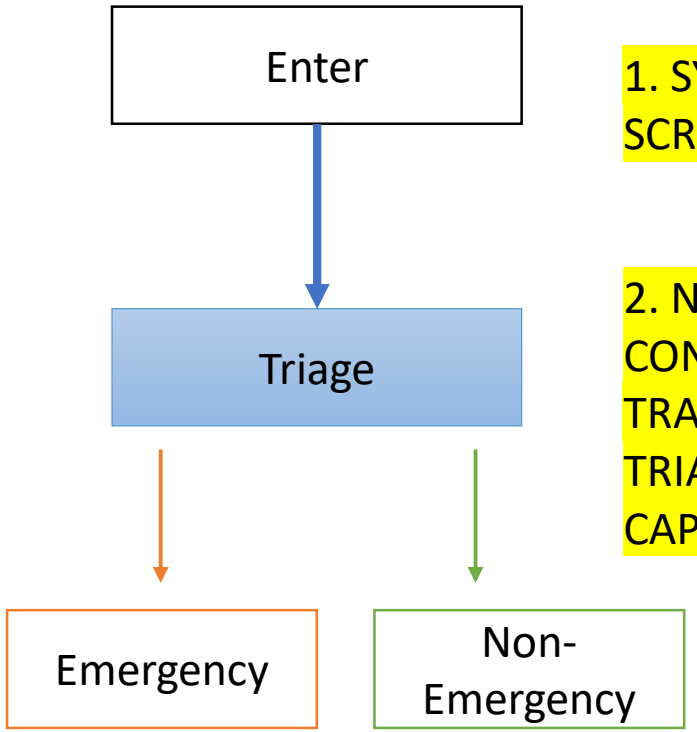
1. Key Terms
2. Preparing the Department
3. Considerations for triage and severity prediction
4. Other Considerations
5. Summary

Key Terms

- Isolation
- Quarantine
- Cohorting
- Screening
- Triage

IN TIMES OF COVID…….





1. SYMPTOMATIC SCREENING AND ISLOATION

2. NUANCED COVID-19 CONSIDERATION FOR TRAIGE AND MAY-BE PR TRIAGE SCREENING DUE TO CAPACITY

3. STARTIFIED CASE MANAGEMENT – REFERRAL TO OUTSIDE FACILITIES OR HOME

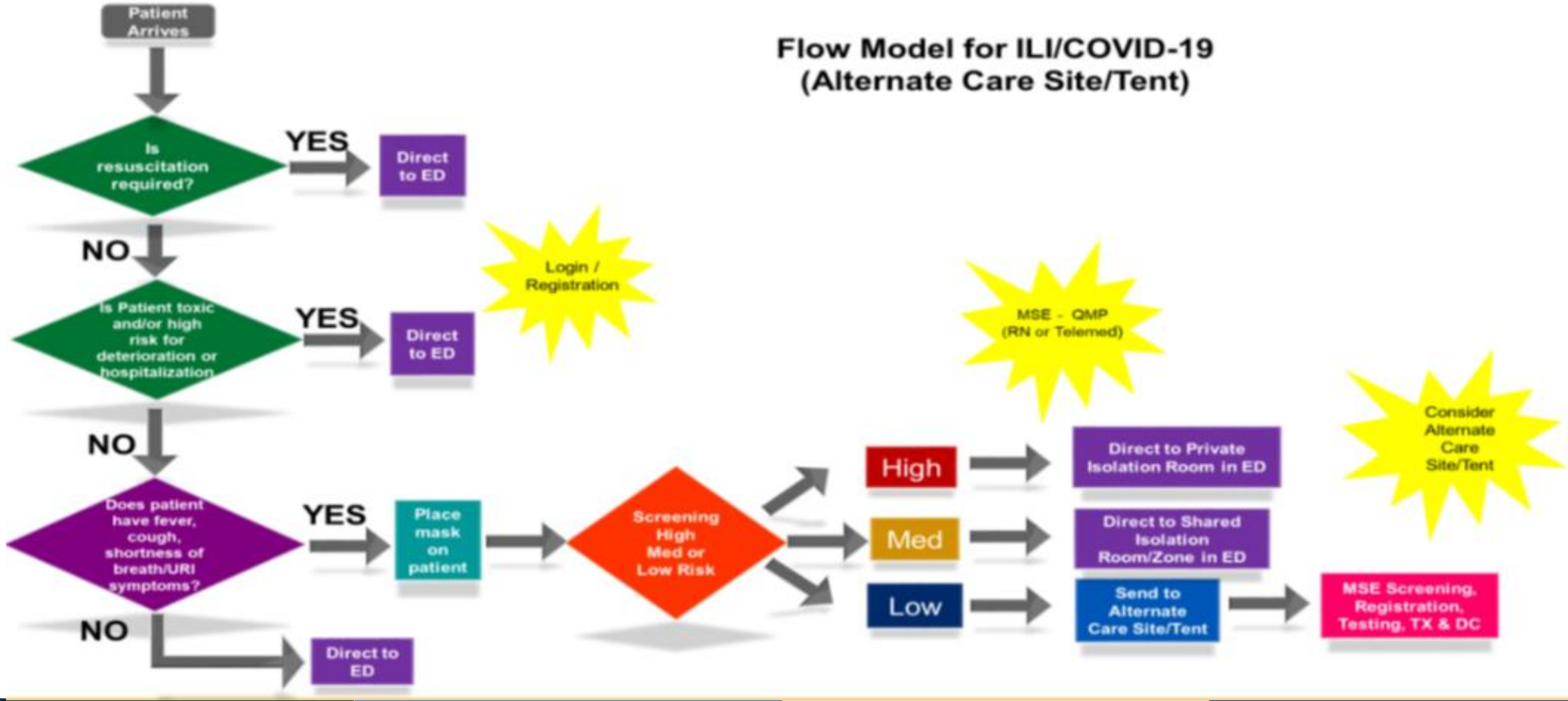
Preparing the Department

Elements to be assessed have been divided into the following areas:

- Establishment of a core team and key internal and external contact points
- Human, material and facility capacity
- Communication and data protection
- Hand hygiene, personal protective equipment (PPE), and waste management
- Triage, first contact and prioritization
- Patient placement, moving of the patients in the facility, and visitor access
- Environmental cleaning

https://www.ecdc.europa.eu/en/publications-data/checklist-hospitals-preparing-reception-and-care-coronavirus-2019-covid-19

Split flow


Flow Model for ILI/COVID-19
(Alternate Care Site/Tent)
Patient Arrives
Is resuscitation required?
YES
Direct to ED
NO
Is Patient toxic and/or high risk for deterioration or hospitalization
YES
Direct to ED
Login / Registration
NO
Does patient have fever, cough, shortness of breath/URI symptoms?
YES
Place mask on patient
Screening High Med or Low Risk
NO
Direct to ED
High
Med
Low
MSE - QMP (RN or Telemed)
Direct to Private Isolation Room in ED
Direct to Shared Isolation Room/Zone in ED
Send to Alternate Care Site/Tent
Consider Alternate Care Site/Tent
MSE Screening, Registration, Testing, TX & DC

Initial Management

IN THE ED

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RESOURCES

- Triage resources for low resource settings:
- https://afem.africa
- programs@afem.info

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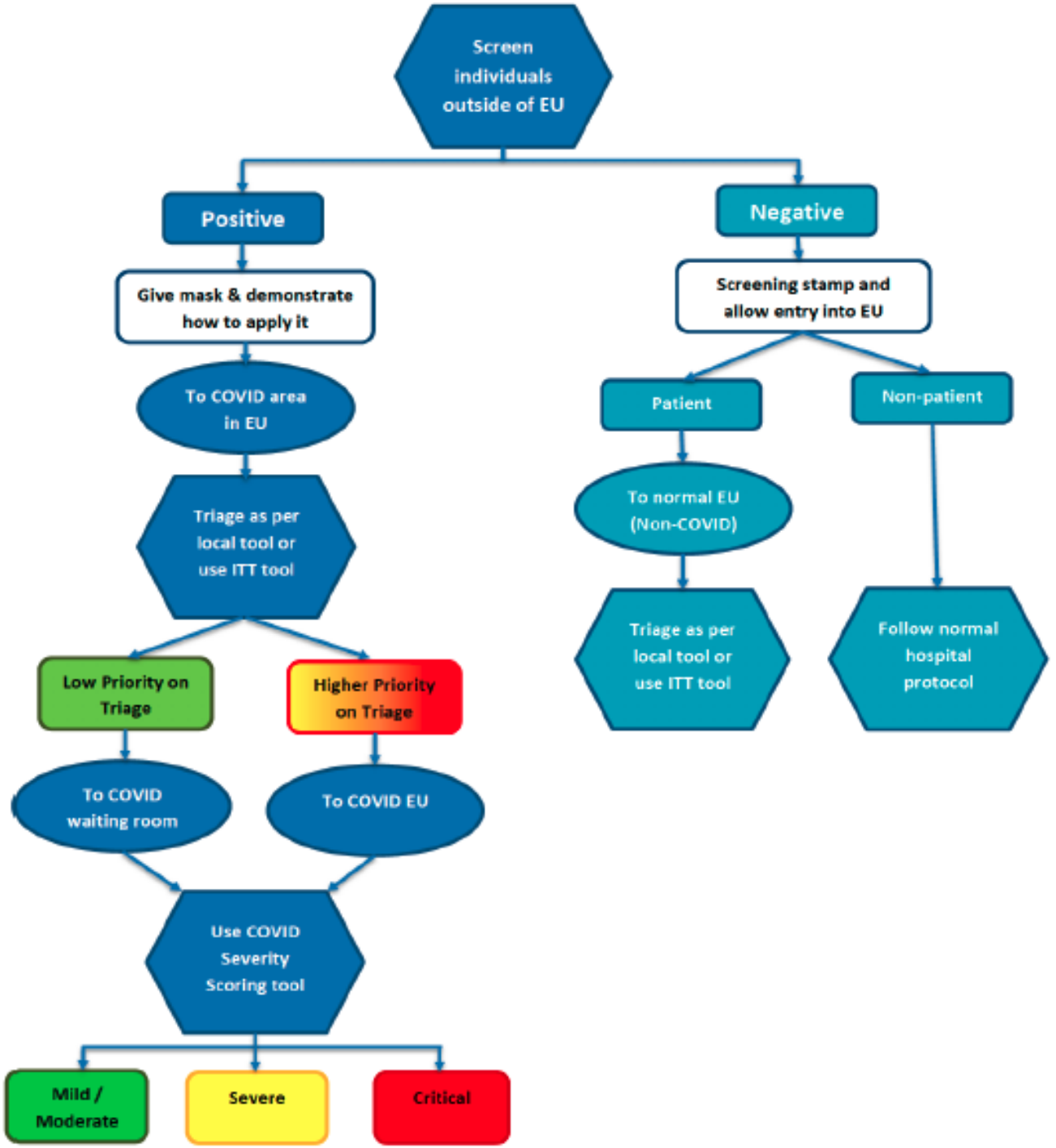
THREE STAGES



SCREENING

TRIAGE

SEVERITY SCORING

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SCREENING

WHO Case Definition

Flu like symptoms (sore throat, fever, cough, and difficulty breathing) AND In the 14 days prior to onset of symptoms:

- Were in close contact with a confirmed or probable case, OR
- Had a history of travel to areas with local transmission, OR
- Worked in, or attended a health care facility where patients with SARSCoV-2 infections were being treated, OR
- Admitted with severe pneumonia of unknown etiology.

JHU Screening

- Documented or Reported Fever,
- Shortness of breath
- Cough
- Sore throat
- Muscle Aches (myalgia)
- New loss of sense of smell or taste
- HAVING ONE OF THE ABOVE ILI CRITERIA = COVID ISOLATION

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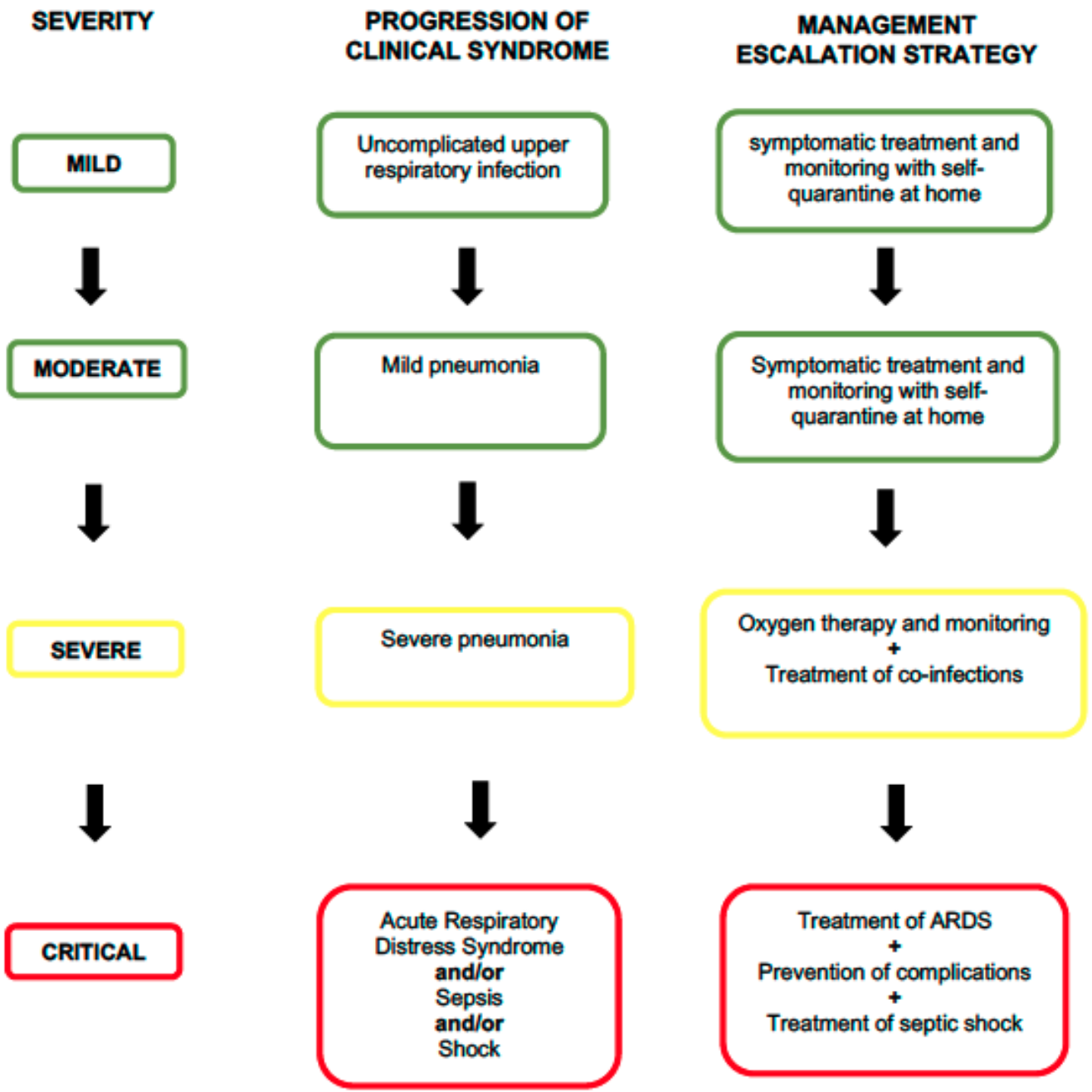
Triage and Stabilization



Normal sats

RR>30 and O2<93%

ARF and/or shock

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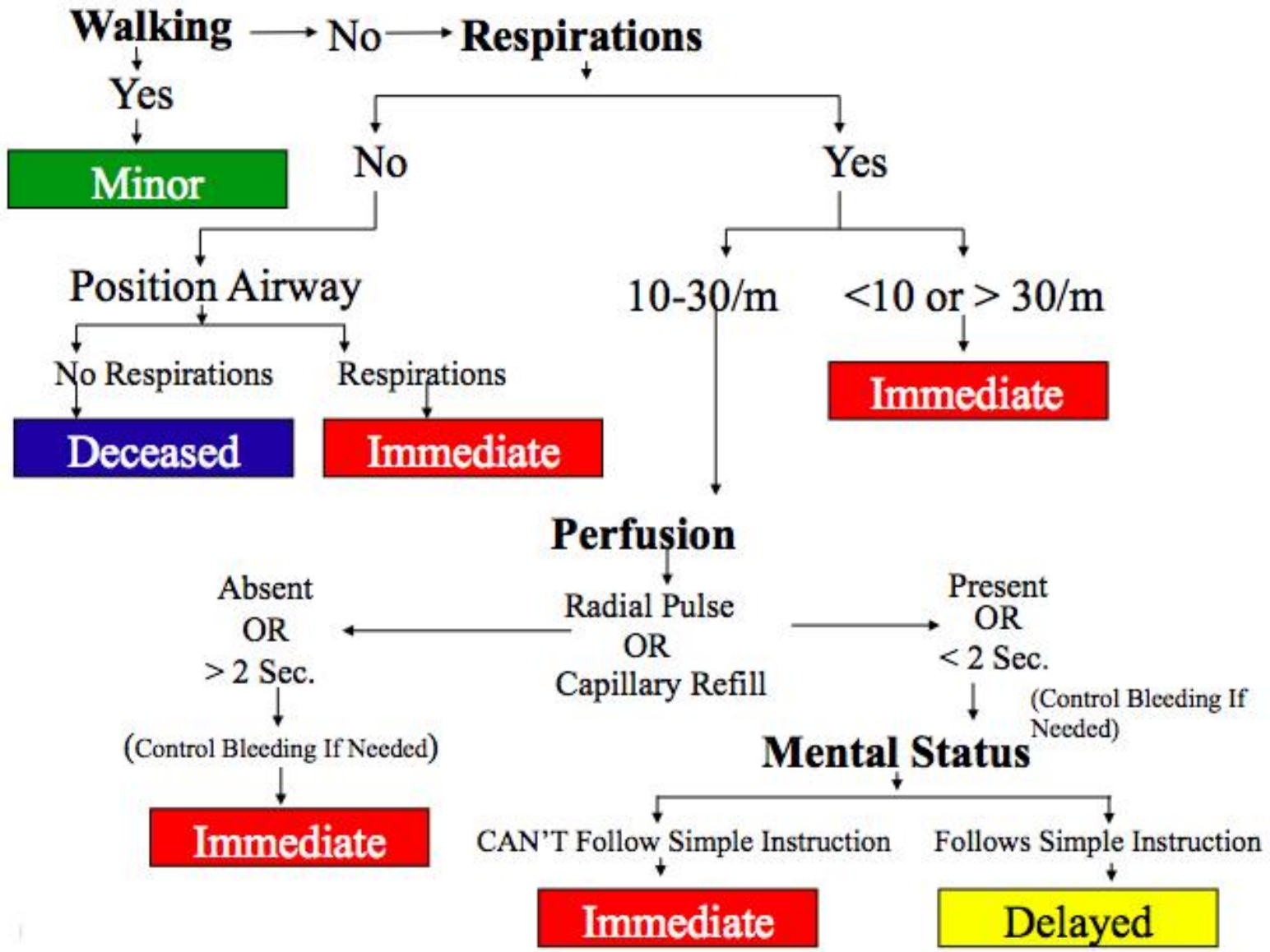
START Triage – Primary Triage: Simple Triage and Rapid Treatment



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Scoring Tool – for stratified case management

MILD

- Symptomatic
- Self-quarantine
- Return precautions

MODERATE

- Symptomatic support
- Self-quarantine
- Empiric Abx if pneumonia
- If bronchodilator use MDI
- Low dose steroids
- Return precautions

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Scoring Tool – for stratified case management

SEVERE

- Admit
- Provide supplemental O2 to achieve O2 sats >88%
  - o Nasal cannula
    - 20-40% oxygen
    - O2 dose 1-5L/min
  - o Simple facemask
    - 40-60% oxygen
    - O2 dose 6-10L/min
  - o Non-rebreather facemask
    - 60-90% oxygen
    - O2 dose 10-15L/min
- Transfer to higher level of care

CRITICAL

- Intubation – most senior, RSI, NRB for pre oxygenation no bagging
- Mechanical Ventilation (see later)
- ECG / Labs
- Co-infections
- Anticoagulation
- Fluid resuscitation
  - 250-500 mL NS/LR
  - Monitor for signs for overload
- Administer vasopressors if shock persists
- Ventilator Triage?

- TRANSFER????

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Reflection on Traditional Triage Tools

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Reliability and validity of emergency department triage tools in low- and middle-income countries: a systematic review

Alexander Jenson[a], Bhakti Hansoti[a], Richard Rothman[a], Sarah S. de Ramirez[b], Katie Lobner[c] and Lee Wallis[d]

Tools	Evaluations	Country setting		Study locale		Study type		Tool components			
		Middle income	Low income	Tertiary hospital	District hospital	Reliability	Validity	Vital signs	Clinical discriminators	Presenting complaint	Resources required
SATS/CTS/PMTS[a]	11	x	–	x	x	x	x	x	x	x	x
mEWS	8	x	x	x	x	–	x	x	x	–	–
Australasian Triage Score[b]	4	x	x	x	–	x	x	x	x	x	x
Abbreviated mEWS	2	x	–	–	x	–	x	x	x	–	–
TOTAL[c]	1	–	x	–	x	–	x	x	x	–	–
HOTEL[b]	1	–	x	–	x	–	x	x	x	–	–

CTS, Cape Triage Score; HOTEL, Hypotension Oxygen Saturation Temperature ECG Loss of Independence; mEWS, Modified Early Warning Score; PMTS, Princess Marina Hospital Triage Score; SATS, South African Triage Scale; TOTAL, Tachypnea Oxygen Saturation Temperature Alert Loss of Independence; X is yes; – is no.

[a]Similar iterations of the triage score with minor changes in relative weights included as the same triage tool for purposes of review.

[b]Turkey Triage Instrument is a modified version of the Australasian Triage Score, and was included as the same triage tool for the purposes of this review.

[c]Designed to be simple rating system but included as triage score, given the aim of the study authors in discussion.

			Evaluation types										
			Reliability		Validity		GRADE criteria						
	Evaluations	Total participants[a]	Inter-rater	'Expert' opinion	Admission	Death	Study limitations	Consistency	Directness	Precision	Publication bias	Overall	
South African Triage Scale	11	28 463	4	3	3	1	−1	1	1	1	1	3	Moderate
Modified Early Warning Score	8	3143	0	0	4	4	−1	1	1	−1	1	1	Very low
Australasian Triage Scale	4	1509	0	1	2	0	−1	1	1	−1	1	1	Very low

[a]If multiple evaluations of same patient population, counted once.

	Evaluations	Overall
South African Triage Scale	11	Moderate
Modified Early Warning Score	8	Very low
Australasian Triage Scale	4	Very low

[a]If multiple evaluations of same patient populati

Pragmatic Recommendations

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Pragmatic Recommendations for Identification and Triage of Patients with COVID-19 in Low- and Middle-Income Countries

Lia M. Barros,[1*] Jennifer L. Pigoga,[2] Sopheakmoniroth Chea,[3] Bhakti Hansoti,[4] Sarah Hirner,[5] Alfred Papali,[6] Kristina E. Rudd,[7] Marcus J. Schultz,[8,9,10] and Emilie J. Calvello Hynes[11] for the COVID-LMIC Task Force and the Mahidol-Oxford Research Unit (MORU)

Question 1: What readily available clinical or diagnostic data, outside of a direct SARS-CoV-2 test, can predict whether a patient is COVID-19 positive in LMICs?

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1.1. In LMICs, we recommend that all patients be screened upon first contact with the healthcare system using a locally approved questionnaire to identify individuals who have suspected or confirmed COVID-19 (strong recommendation, very low quality of evidence).

1.2. In LMICs, we suggest that primary screening tools used to identify individuals who have suspected or confirmed COVID-19 include a broad range of signs and symptoms based on standard case definitions of COVID-19 disease (strong recommendation, very low quality of evidence).

1.3. In LMICs, we recommend that screening include endemic febrile illness per routine protocols upon presentation to a healthcare facility (weak recommendation, low quality of evidence).

Question 2: What validated triage severity of illness scoring systems are available to help determine appro-priate level of care for COVID-19 patients in LMICs?

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2.1. In LMICs, we recommend that, following screening and implementation of appropriate universal source control measures, suspected COVID-19 patients be triaged with a triage tool appropriate for the setting (strong recommendation, very low quality of evidence).

2.2. In LMICs, we recommend a standardized severity score based on the WHO COVID-19 disease definitions be assigned to all suspected and confirmed COVID-19 patients before their disposition from the emergency unit (weak recommendation, low quality of evidence).

Question 3: Which diagnostic modalities can be used to risk stratify patients with suspected or confirmed COVID- 19 in LMICs?

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3.1. In LMICs, we suggest against using diagnostic imaging to improve triage of RT-PCR–confirmed COVID-19 patients, unless a patient has worsening respiratory status (weak recommendation, very low quality of evidence).

3.2. In LMICs, we suggest against the use of point-of-care lung ultrasound to improve triage of RT-PCR–confirmed COVID-19 patients (weak recommendation, low quality of evidence).

3.3. In LMICs, we suggest the use of diagnostic imaging to improve sensitivity of appropriate triage in patients who are RT-PCR negative but have moderate-to-severe symptoms and concern for a false-negative RT-PCR and with a high risk of disease progression (weak recommendation, very low quality of evidence).

3.4. In LMICs, we suggest the use of diagnostic imaging to improve sensitivity of appropriate triage in suspected COVID-19 patients with moderate or severe clinical features who are without access to RT-PCR testing for SARS-CoV-2 (weak recommendation, very low quality of evidence).

QUESTIONS?

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To summarize

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- Focus is on identifying PUI -> sick vs non-sick so that you can manage flow
- Majority of patients walking well
- Sick are really sick
- Can decline rapidly – monitoring in waiting rooms
- Supportive care in the ED – observation unit
- Mortality is high