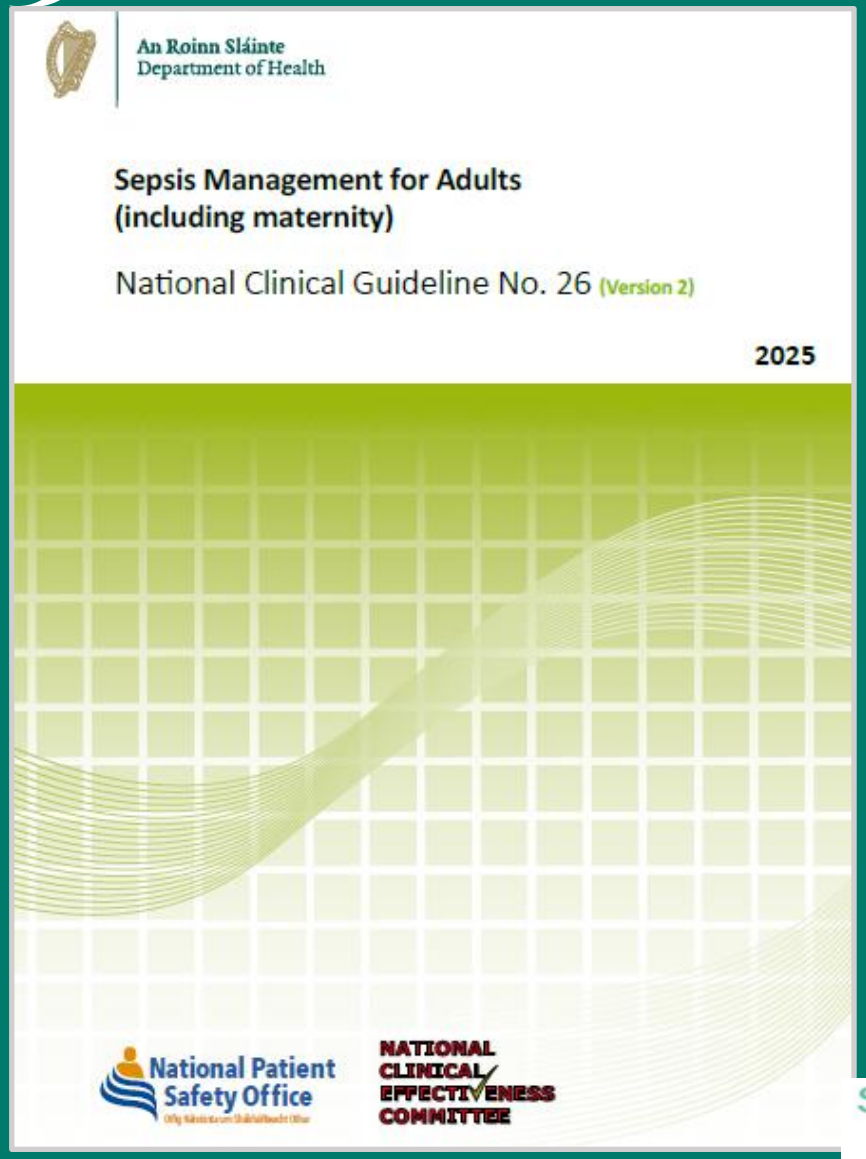
Sepsis Management for Adults (including Maternity)
NCG No. 26 V2 (2025)
Training as per HSELanD Sepsis eLearning.

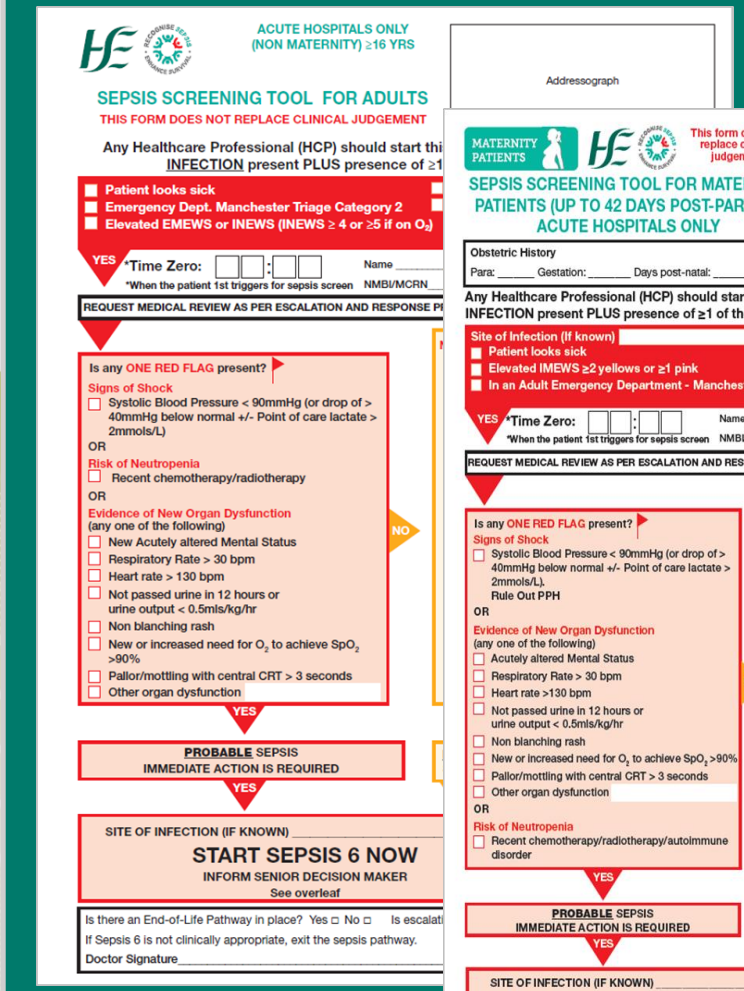
February 2026

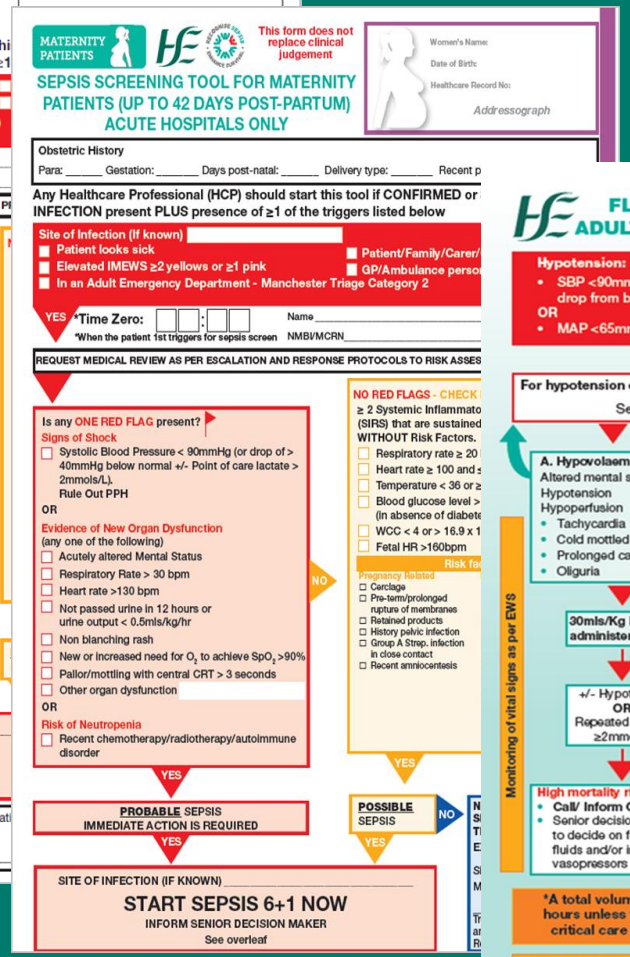
Guidance for Receiving Certificate of Completion of Face To Face Sepsis Training

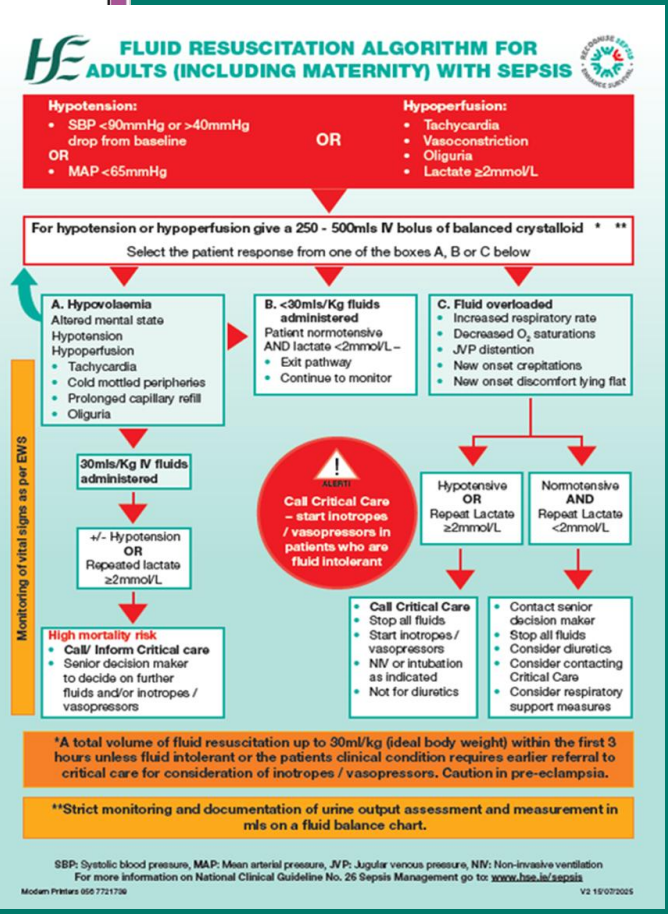
- Consultants, NCHDs, Nursing, Midwifery and HSCPs must attend for the duration of the session.
- This education session will take approximately 45 minutes.
- All attendees should complete the sign in log with date, print name / signature, grade, discipline, clinical area and enter MRCN / NMBI / Coru registration number.
- You will receive a certificate of attendance from your local hospital at the end of the session (cert lasts for 3 years).
- Please update the NER portal (NCHDs) or local training database with your certificate as per local HR processes.

NCG No. 26 V2 (2025)









Surviving Sepsis Campaign

Key recommendation updates from SSCG 2021

NCG No.26 (2021) Section	PREVIOUS RECOMMENDATIONS	NEW / CHANGED RECOMMENDATIONS
Section 1.1 Antimicrobial Therapy **Recommendation 16 (Changed)** **Recommendation 16a (New)**	Administering antimicrobials immediately, ideally within 1 hour of recognition for patients with possible / probable sepsis or septic shock	Administering antimicrobials immediately, ideally within 1 hour of recognition for patients with probable sepsis or septic shock. (**SSCG 2021, Rec 12)** A time-limited course of rapid investigation and if concern for infection persists, the administration of antimicrobials within 3 hrs from the time when sepsis was first recognised for patients with possible sepsis without shock **(SSCG 2021, Rec 14)**
Section 1.1 Initial resuscitation **Recommendation 11 (Changed)**	Normal saline for resuscitation of patients with sepsis or septic shock **(SSCG 2021, Recommendation 33)**	Balanced crystalloids instead of normal saline for resuscitation. **(SSCG 2021, Rec 33)**
Section 1.1 Vasoactive medication **Recommendation 38a (New)**		Starting vasopressors peripherally to restore mean arterial pressure rather than delaying initiation until central venous access is secured for patients with septic shock **(SSCG 2021, Rec 44). Should be based on locally approved guidelines.**
Section 1.1 Mechanical ventilation **Recommendation 48a (New)**		The use of high flow nasal oxygen over non-invasive ventilation for patients with sepsis-induced hypoxemic respiratory failure **(SSCG 2021, Rec 47)**

Topic 1

What is Sepsis?

What is Sepsis (Sepsis 3 Definition)

- **Sepsis** – should be defined as life threatening organ dysfunction caused by a dysregulated host response to infection

- **Septic Shock –** should be defined as a subset of sepsis in which there are profound circulatory, cellular, and metabolic abnormalities which are associated with a greater risk of mortality than with sepsis alone. Patients with septic shock can be clinically identified by a vasopressor requirement to maintain a mean arterial pressure of 65 mmHg or greater and serum lactate level greater than 2 mmol/L in the absence of hypovolemia.(Singer et al. 2016)

- **Maternal sepsis -** should be defined as a life-threatening organ dysfunction resulting from infection during pregnancy, child-birth, post abortion or up to 42 days post-partum (WHO 2016)

N.B Sepsis is a time-critical medical emergency

What causes sepsis?

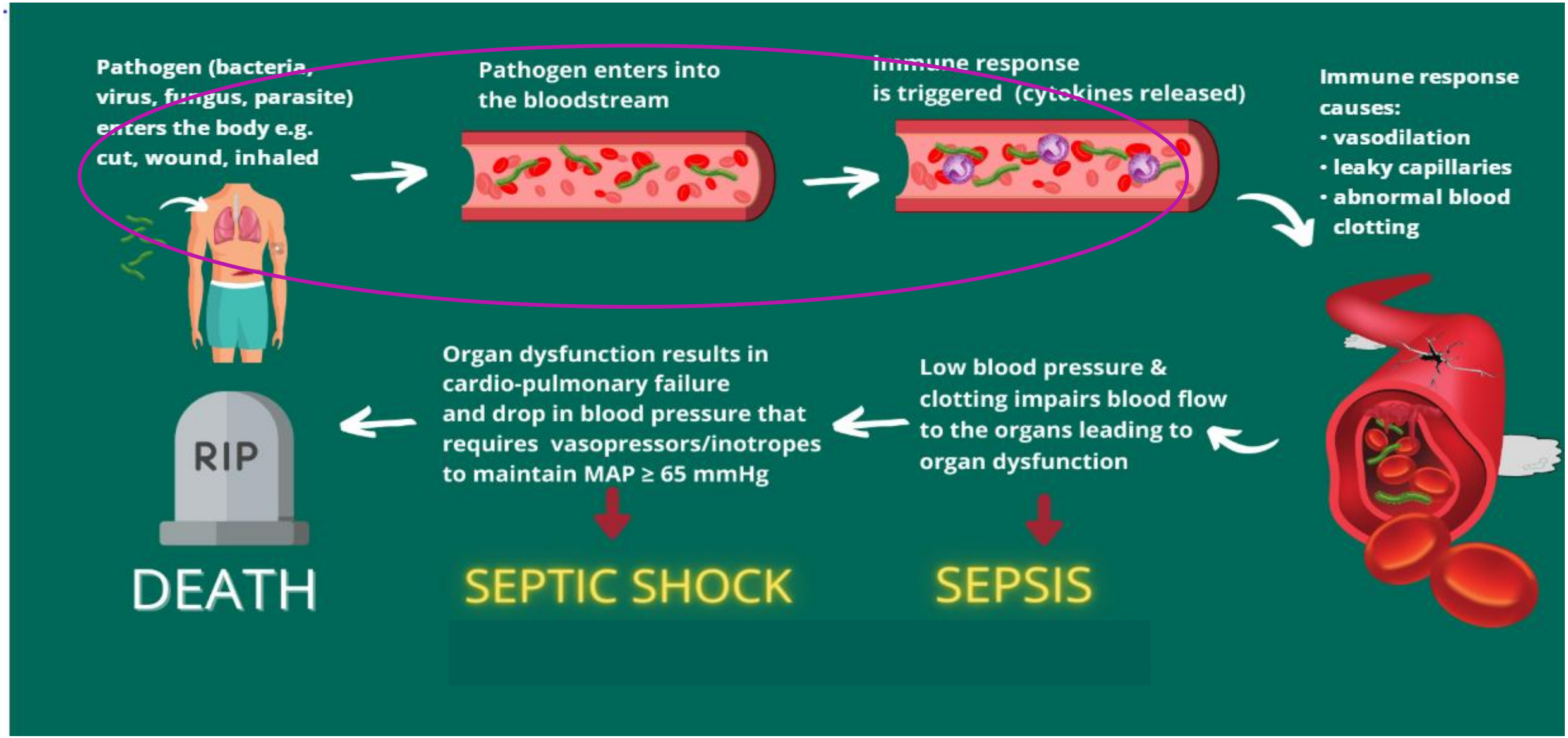
Any type of pathogen can cause sepsis:

- Bacteria
- Viruses
- Fungi
- Parasites

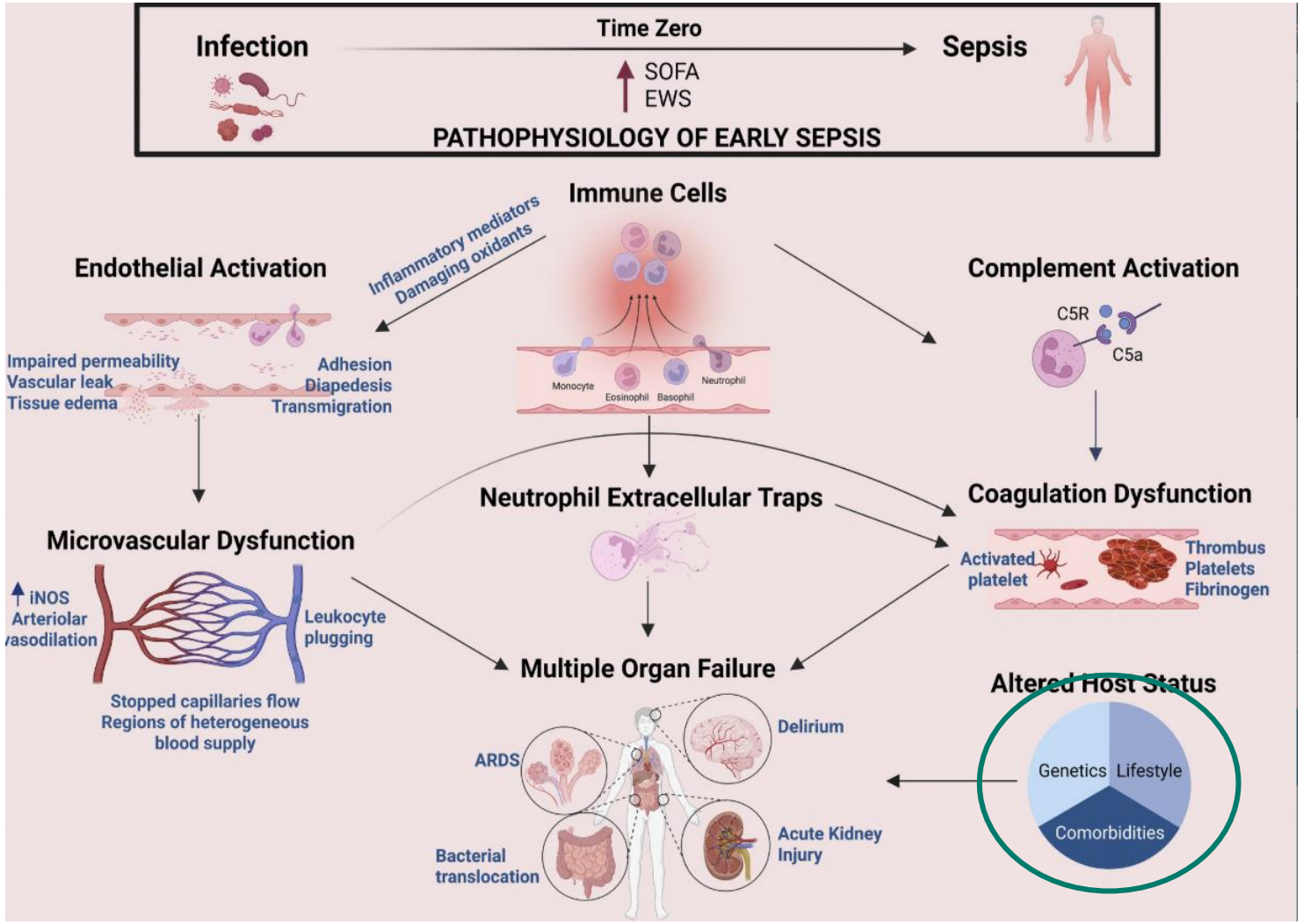
Sepsis begins outside of the hospital, in the community, for nearly 80% of people.

But not every infection will lead to sepsis.

Pathophysiology of Sepsis



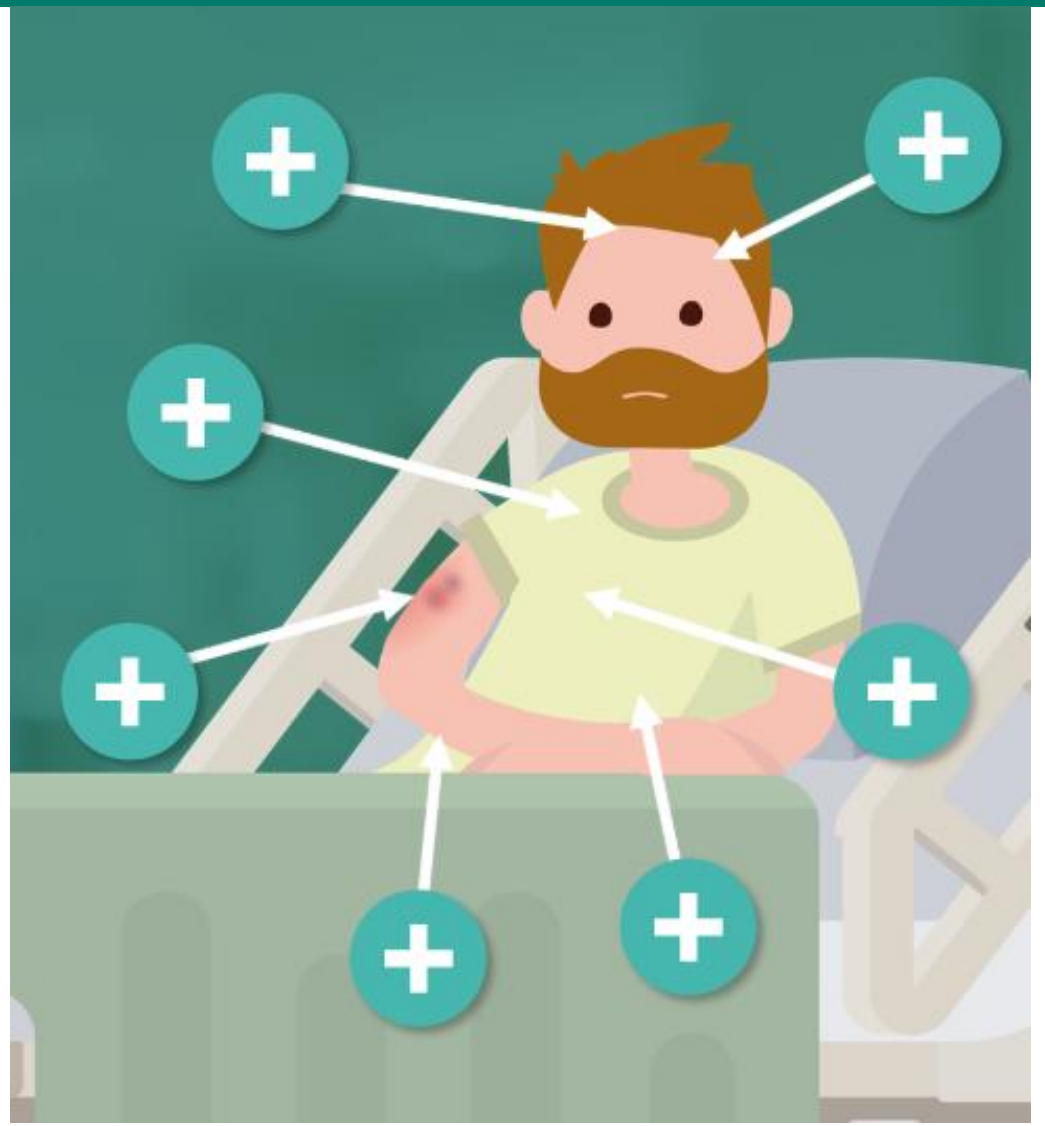
Pathophysiology of Sepsis



American Journal of Physiology. Am J Physiol Regul Integr Comp Physiol 324: R613–R624, 2023. First published March 6, 2023; doi:10.1152/ajpregu.00003.2023

What physiological changes can you see in sepsis?

- ↑ Respiration rate
- ↑ Heart rate
- Brain – mental status
- Temperature
- Kidney – oligo/anuria
- Low platelets
- Pain



Topic 2

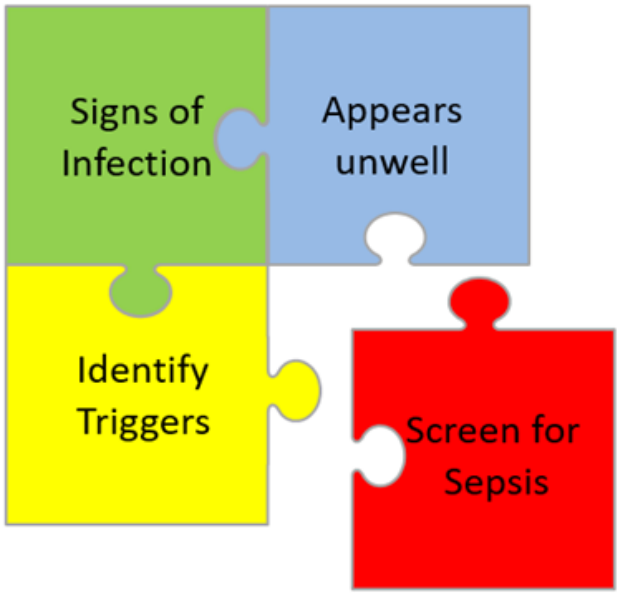
How to Recognise and Screen for Sepsis

Infection – Could this be Sepsis?

Assessing whether or not a patient is at risk of sepsis starts with a suspicion of infection.

Sepsis can be difficult to recognise since:

- **Presentation varies**.
- It is **not always obvious**; in the early stages some patients may have very few specific signs and symptoms.
- The signs and symptoms **can mimic other conditions**.
- It can **evolve over time**.
- There is **no single confirmatory test** that can be used to diagnose sepsis.
- **Information to diagnose** is **not always available** on presentation e.g. blood test results and other investigations



Adult Sepsis Screening Tool

ACUTE HOSPITALS ONLY
(NON MATERNITY) ≥16 YRS

Addressograph

SEPSIS SCREENING TOOL FOR ADULTS

THIS FORM DOES NOT REPLACE CLINICAL JUDGEMENT

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

- ☐ Patient looks sick
- ☐ Emergency Dept. Manchester Triage Category 2
- ☐ Elevated EMEWS or INEWS (INEWS ≥ 4 or ≥5 if on O_2)
- ☐ Patient/Family/Carer/Clinician Concern
- ☐ GP/ Ambulance personnel queries sepsis

Score:

YES *Time Zero: ☐☐:☐☐ Name _____ Grade_____

*When the patient 1st triggers for sepsis screen NMBI/MCRN_____ DATE: ___/___/____

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L)

OR

Risk of Neutropenia
- ☐ Recent chemotherapy/radiotherapy

OR

Evidence of New Organ Dysfunction (any one of the following)
- ☐ New Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate > 130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

YES

PROBABLE SEPSIS
IMMEDIATE ACTION IS REQUIRED

YES

NO

NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained PLUS ≥ 1 Comorbidity.

SIRS (check for 2 or more listed below)
- ☐ Respiratory rate ≥ 20 bpm
- ☐ Heart rate 91 - 130 bpm
- ☐ Temperature < 36 or > 38.3 °C
- ☐ Blood glucose level > 7.7 mmol/l (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 12 x 10^9 /L

AND

≥ 1 Comorbidity (listed below)
- ☐ Aged ≥ 75 years
- ☐ Frailty
- ☐ Diabetes Mellitus
- ☐ COPD
- ☐ Cancer
- ☐ Chronic Renal Disease
- ☐ Chronic Liver Disease
- ☐ Recent Surgery /Trauma (past 6 weeks)
- ☐ Immunosuppression (due to medication or disease)

YES

POSSIBLE SEPSIS

YES

NO

NO

NEGATIVE SCREEN SEPSIS UNLIKELY AT THIS TIME ☐

EXIT PATHWAY

Sign_____

MCRN / NMBI (ANP)

Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

SITE OF INFECTION (IF KNOWN) _____

START SEPSIS 6 NOW

INFORM SENIOR DECISION MAKER

See overleaf

Is there an End-of-Life Pathway in place? Yes ☐ No ☐ Is escalation clinically appropriate? Yes ☐ No ☐

If Sepsis 6 is not clinically appropriate, exit the sepsis pathway.

Doctor Signature_____ MCRN_____

SEPSIS TREATMENT PROTOCOL FOR ADULTS (NON MATERNITY) ≥16 YRS

SEPSIS 6 BUNDLE

- COMPLETE WITHIN 1 HOUR

Addressograph

TAKE 3

1 TAKE BLOOD CULTURES

2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins. If patient has CVAD, take line cultures at the same time. Other cultures as indicated by history and examination.

Time Taken: ☐☐:☐☐

2 TAKE BLOOD TESTS

FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen. If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.

Time Taken: ☐☐:☐☐

3 URINARY OUTPUT ASSESSMENT

Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.

Time: ☐☐:☐☐

Fluid balance chart commenced ☐

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN ☐☐:☐☐	TIME GIVEN ☐☐:☐☐

- ☐ Patient already on appropriate antimicrobials
- ☐ This patient does not require antimicrobials at this time

5 GIVE IV FLUID BOLUS IF REQUIRED

For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors, Reassess response to fluid resuscitation frequently. **Refer to fluid resuscitation algorithm.**

Time Given: ☐☐:☐☐ or N/A ☐

6 GIVE OXYGEN IF REQUIRED

Titrate supplementary oxygen to maintain oxygen saturations 94-96% (88-92% for patients with chronic lung disease).

Time Given: ☐☐:☐☐ or N/A ☐

Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

- ☐ Sepsis UNLIKELY at this time, treat as per working diagnosis, continue to monitor. Rescreen if deteriorates
- ☐ This is likely to be SEPSIS at this time
- ☐ Senior Clinician informed

Signature _____ MCRN / NMBI (ANP) _____

Print _____ Date: ___/___/____ Time ☐☐:☐☐

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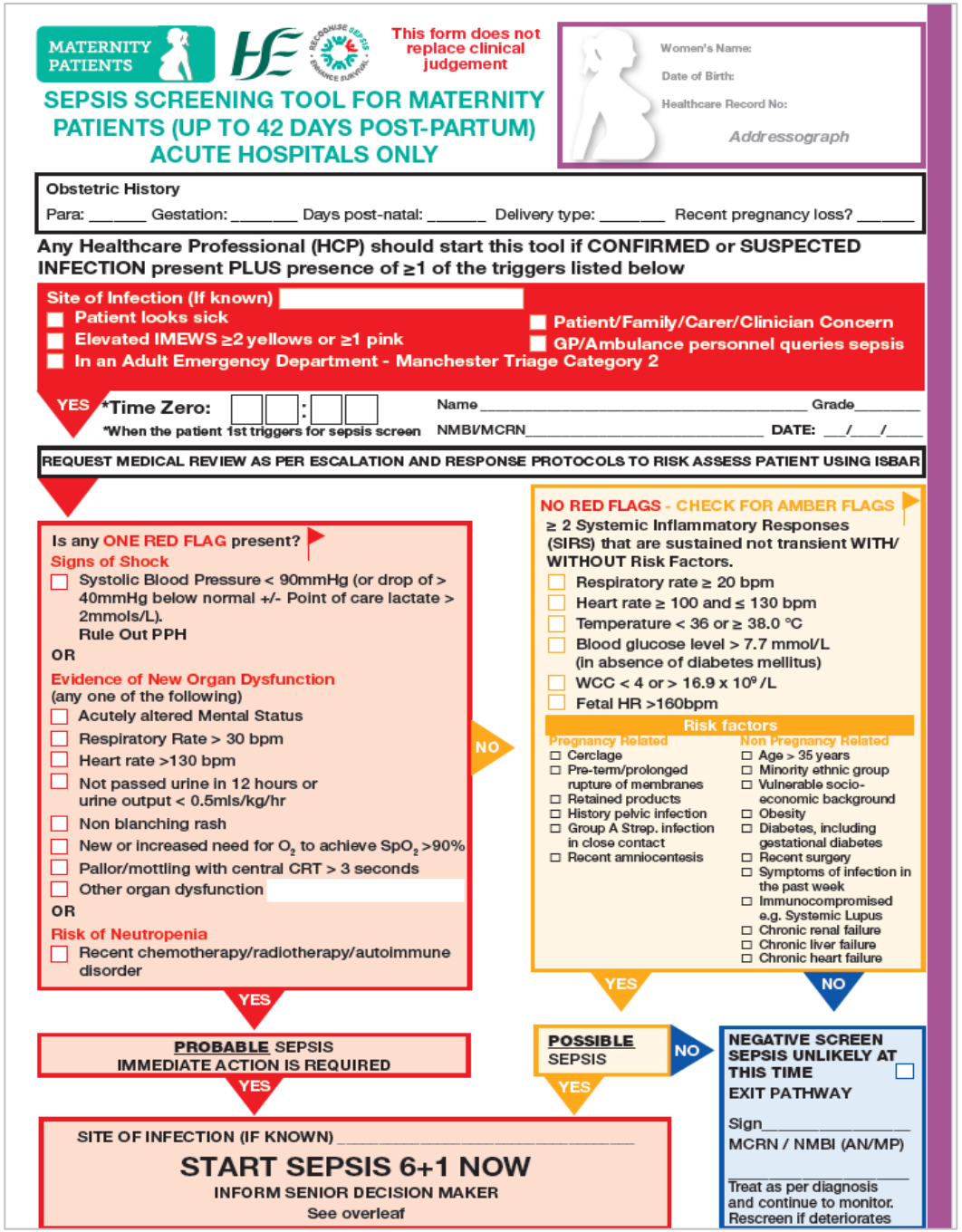
Maternal Sepsis Screening Tool



MATERNITY PATIENTS

This form does not replace clinical judgement

SEPSIS SCREENING TOOL FOR MATERNITY PATIENTS (UP TO 42 DAYS POST-PARTUM) ACUTE HOSPITALS ONLY

Women's Name:
Date of Birth:
Healthcare Record No:
Addressograph

Obstetric History

Para: _____ Gestation: _____ Days post-natal: _____ Delivery type: _____ Recent pregnancy loss? _____

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

Site of Infection (If known)

- Patient looks sick
- Elevated IMEWS ≥2 yellows or ≥1 pink
- In an Adult Emergency Department - Manchester Triage Category 2
- Patient/Family/Carer/Clinician Concern
- GP/Ambulance personnel queries sepsis

YES *Time Zero: ☐☐:☐☐ *When the patient 1st triggers for sepsis screen

Name _____ Grade _____

NMBI/MCRN _____ DATE: __/__/____

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock

- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L). Rule Out PPH

OR

Evidence of New Organ Dysfunction (any one of the following)

- ☐ Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate >130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

OR

Risk of Neutropenia

- ☐ Recent chemotherapy/radiotherapy/autoimmune disorder

YES

PROBABLE SEPSIS
IMMEDIATE ACTION IS REQUIRED

YES

SITE OF INFECTION (IF KNOWN) _____

START SEPSIS 6+1 NOW
INFORM SENIOR DECISION MAKER
See overleaf

NO

NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained not transient WITH/ WITHOUT Risk Factors.

- ☐ Respiratory rate ≥ 20 bpm
- ☐ Heart rate ≥ 100 and ≤ 130 bpm
- ☐ Temperature < 36 or ≥ 38.0 °C
- ☐ Blood glucose level > 7.7 mmol/L (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 16.9 x 10^9 /L
- ☐ Fetal HR >160bpm

Risk factors

Pregnancy Related	Non Pregnancy Related
☐ Cerclage	☐ Age > 35 years
☐ Pre-term/prolonged rupture of membranes	☐ Minority ethnic group
☐ Retained products	☐ Vulnerable socio-economic background
☐ History pelvic infection	☐ Obesity
☐ Group A Strep. infection in close contact	☐ Diabetes, including gestational diabetes
☐ Recent amniocentesis	☐ Recent surgery
	☐ Symptoms of infection in the past week
	☐ Immunocompromised e.g. Systemic Lupus
	☐ Chronic renal failure
	☐ Chronic liver failure
	☐ Chronic heart failure

YES

POSSIBLE SEPSIS

NO

NEGATIVE SCREEN SEPSIS UNLIKELY AT THIS TIME ☐
EXIT PATHWAY

Sign _____
MCRN / NMBI (AN/MP)

Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

YES

NO

MATERNITY PATIENTS

SEPSIS TREATMENT PROTOCOL FOR MATERNITY PATIENTS (UP TO 42 DAYS POST-PARTUM)
SEPSIS 6+1 BUNDLE
- COMPLETE WITHIN 1 HOUR

Addressograph

TAKE 3

1 TAKE BLOOD CULTURES
2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins, and other cultures as per examination.
Time Taken: ☐☐:☐☐

2 TAKE BLOOD TESTS
FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen. If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.
Time Taken: ☐☐:☐☐

3 URINARY OUTPUT ASSESSMENT
Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.
Time: ☐☐:☐☐
Fluid balance chart commenced ☐

+1 IF PREGNANT ASSESS FETAL WELLBEING
Time Completed: ☐☐:☐☐
N/A ☐

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

Red Flags (PROBABLE SEPSIS) 1 HOUR	Amber Flags (POSSIBLE SEPSIS) 3 HOURS
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN ☐☐:☐☐	TIME GIVEN ☐☐:☐☐

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

5 GIVE IV FLUID BOLUS IF REQUIRED
For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors, Reassess response to fluid resuscitation frequently. **Refer to fluid resuscitation algorithm. Caution in pre-eclampsia.**
Time Given: ☐☐:☐☐ or N/A ☐

6 GIVE OXYGEN IF REQUIRED
Titrate supplementary oxygen to maintain oxygen saturations 94-98% (88-92% for patients with chronic lung disease).
Time Given: ☐☐:☐☐ or N/A ☐

Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

THIS IS LIKELY TO BE SEPSIS ☐ OR SEPTIC SHOCK ☐ AT THIS TIME
☐ Senior Clinician informed Time: ☐☐:☐☐
☐ Sepsis UNLIKELY at this time

Signature _____ MCRN / NMBI (AN/MP) _____
Print Name _____ Date: _____ Time: ☐☐:☐☐

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When to screen for sepsis?

Any healthcare professional can start the sepsis screening tool (form) if infection is suspected or confirmed **PLUS** ≥ 1 of the triggers listed below (red box).

Adult

- ☐ Patient looks sick
- ☐ Emergency Dept. Manchester Triage Category 2
- ☐ Elevated EMEWS or INEWS (INEWS ≥ 4 or ≥5 if on O_2)
- ☐ Patient/Family/Carer/Clinician Concern
- ☐ GP/ Ambulance personnel queries sepsis

Score: ☐

YES *Time Zero: ☐☐:☐☐

*When the patient 1st triggers for sepsis screen

Name _____ Grade_____

NMBI/MCRN_____ DATE: ___/___/____

Maternity

Site of Infection (If known) ☐

- ☐ Patient looks sick
- ☐ Elevated IMEWS ≥2 yellows or ≥1 pink
- ☐ In an Adult Emergency Department - Manchester Triage Category 2
- ☐ Patient/Family/Carer/Clinician Concern
- ☐ GP/Ambulance personnel queries sepsis

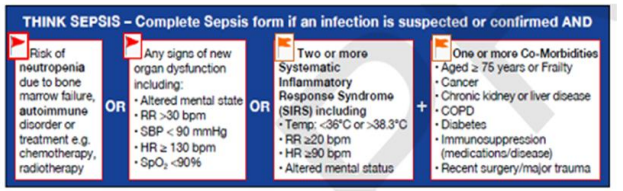
YES *Time Zero: ☐☐:☐☐

*When the patient 1st triggers for sepsis screen

Name _____ Grade_____

NMBI/MCRN_____ DATE: ___/___/____

EMEWS



INEWS

*THINK SEPSIS
(Use clinical judgement)

INEWS ≥4 (or ≥5 on Oxygen) and suspicion of infection

Older people or those immunocompromised may present with sepsis with an INEWS <4 (<5 if on Oxygen)

IMEWS

Time Zero

TIME ZERO is the time at which a healthcare professional first recognises that a patient with suspected or confirmed infection has ≥ 1 trigger in the trigger box to indicate sepsis screening should commence for
PROBABLE SEPSIS / SEPTIC SHOCK or POSSIBLE SEPSIS.

YES *Time Zero: ☐☐:☐☐
*When the patient 1st triggers for sepsis screen

Name _____ Grade_____
NMBI/MCRN_____ DATE: __/__/____

Immediate Medical / ANP /AMP review should be requested as per local escalation protocol.

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Examples of Time Zero

Emergency Department: Patient presents to ED at 10.00hrs with suspected respiratory tract infection. Triage nurse **completes triage at 10.45hrs** and assigns discriminator “Possible Sepsis” MTS Cat 2 based on the clinical history and risk factors (MTS Cat 2 is trigger for sepsis screen).

Time Zero is recorded as 10.45hrs on sepsis screening tool.

Medical ward: Patient admitted on 01.01.2025 for I.V antibiotic treatment for UTI. On 02.01.2025 at 10.00hrs the ward nurse completes an assessment of vital signs. INEWS is increased to total score of 6 and the nurse and family are concerned (trigger is INEWS ≥ 4 and clinical concern).

Time Zero is recorded as 10.00hrs on the sepsis screening tool.

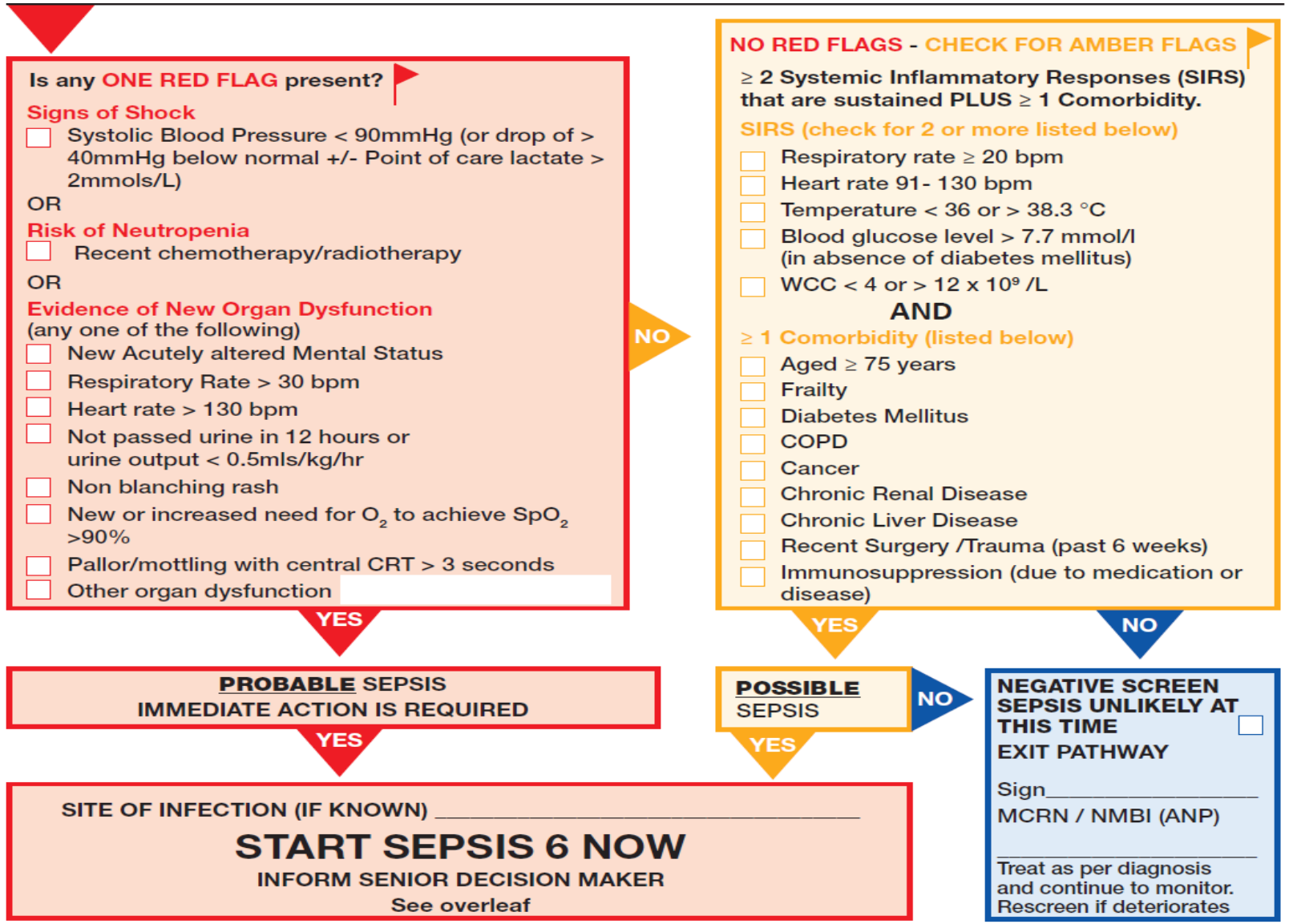
Maternity ward: Patient day 1 post natal. New shortness of breath with cough. Midwife records IMEWS at 14.00hrs – 2 pinks. Patient and midwife concerned.

Time Zero is recorded as 14.00hrs on the sepsis screening tool.

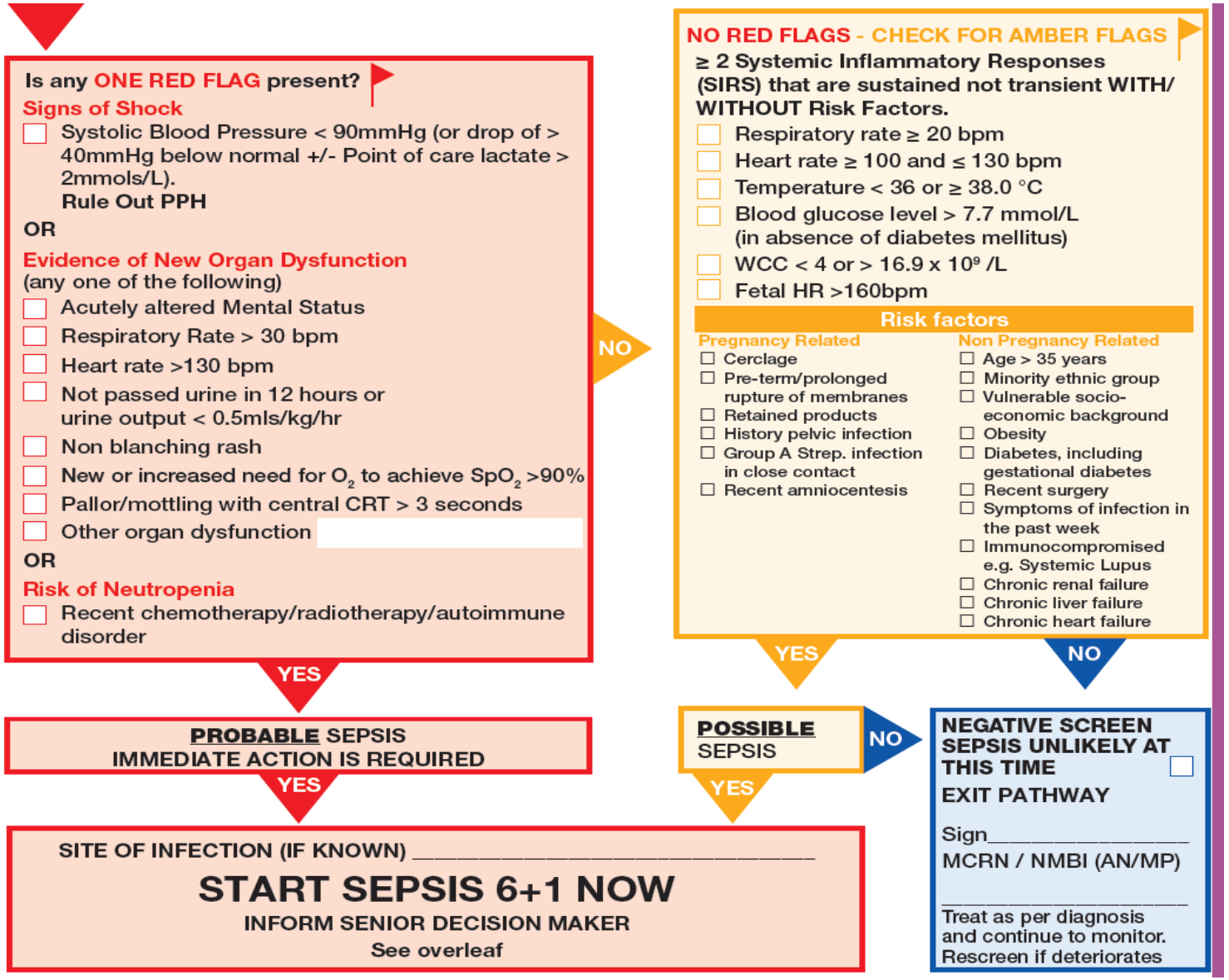
Topic 3

Sepsis screening and management.

Sepsis screening and High Risk Adult Groups



Sepsis screening and High Risk *Maternity* Groups



Amber flag:
≥ 2 SIRS
with or without
risk factors.

End Of Life Care Pathway

- If a patient has suspected infection with red or amber flags, it **may not** be clinically appropriate for the patient to have the **Sepsis 6 (or 6 + 1)** administered if an **End of Life Care Pathway** is in place. However this requires medical review and any agreed *ceilings of treatment* should be applied before the sepsis pathway is exited.

Is there an End-of-Life Pathway in place? Yes ☐ No ☐ Is escalation clinically appropriate? Yes ☐ No ☐

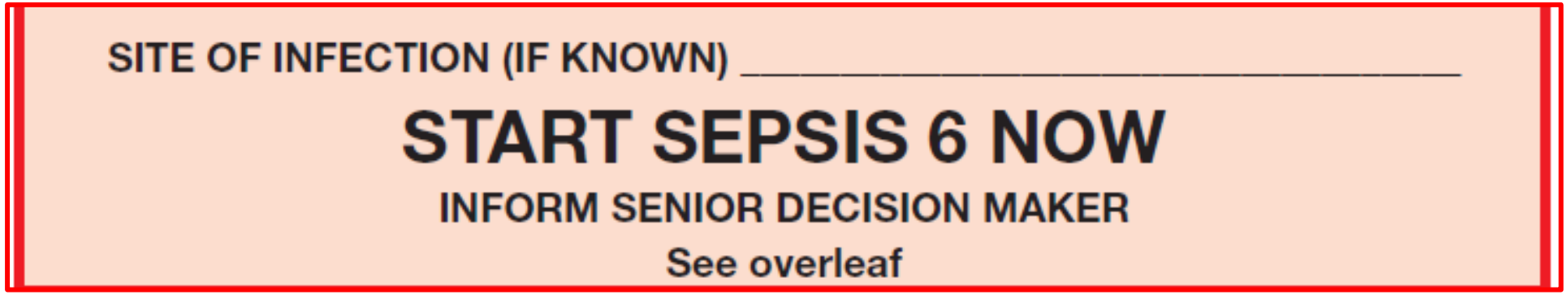
If Sepsis 6 is not clinically appropriate, exit the sepsis pathway.

Doctor Signature_____ MCRN_____

Treatment: Escalation of Patient Care

- **Effective teamwork and communications is critical to the clinical management of the patient with sepsis.**

- If the patient has a suspected or confirmed infection with Red Flags (**probable sepsis)** or Amber Flags (**possible sepsis**) identified at sepsis screening, the **Sepsis 6 (or 6+ 1)** should be started immediately following medical review.



- A senior decision maker (registrar or consultant) should be informed of the patient's clinical status to update and agree the treatment plan.

Take 3 +1

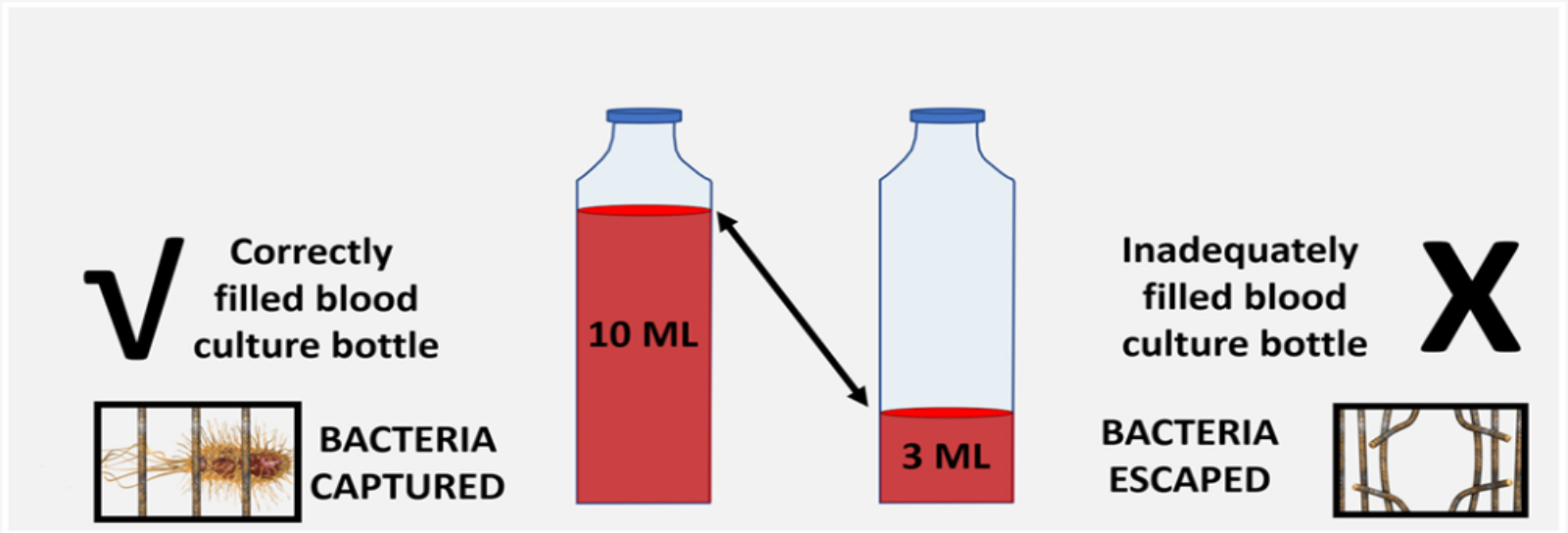
TAKE 3			
	1	**TAKE BLOOD CULTURES** 2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins. If patient has CVAD, take line cultures at the same time. Other cultures as indicated by history and examination.	Time Taken: ☐☐:☐☐
	2	**TAKE BLOOD TESTS** FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen. If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.	Time Taken: ☐☐:☐☐
	3	**URINARY OUTPUT ASSESSMENT** Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.	Time: ☐☐:☐☐ Fluid balance chart commenced ☐
	+1	**IF PREGNANT ASSESS FETAL WELLBEING**	Time Completed: ☐☐:☐☐ N/A ☐

Fetal assessment:

Monitoring fetal wellbeing should not delay administering all other elements of the sepsis 6 bundle.
Resuscitation of the woman will resuscitate the unborn fetus.

N.B Source control should be carried out within 12 hours after diagnosis or clinical deterioration as required e.g. Removal of U/C, CVAD, PIVC, drainage of an abscess, removal of retained products if suspected source of infection

Blood cultures



- Volume of blood cultured is critical to detection of Blood Stream Infection (BSI)
- Between 20-40% of patients with BSI are not on effective treatment.
- By culturing the correct amount of blood you will provide the best chance of detecting the bug making the patient unwell
- The most effective antibiotic can then be selected

Small difference **BIG IMPACT**

GIVE PATIENTS THE BEST CHANCE
PUT 8-10ML IN EVERY ADULT BLOOD CULTURE BOTTLE

Figure 1. Illustration of correctly filled blood culture bottle. 8–10 ml of blood is required to best detect bacteria.

Give 3

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN ☐☐:☐☐	TIME GIVEN ☐☐:☐☐

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

5 GIVE IV FLUID BOLUS IF REQUIRED

For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors, Reassess response to fluid resuscitation frequently.
Refer to fluid resuscitation algorithm. Caution in pre-eclampsia.

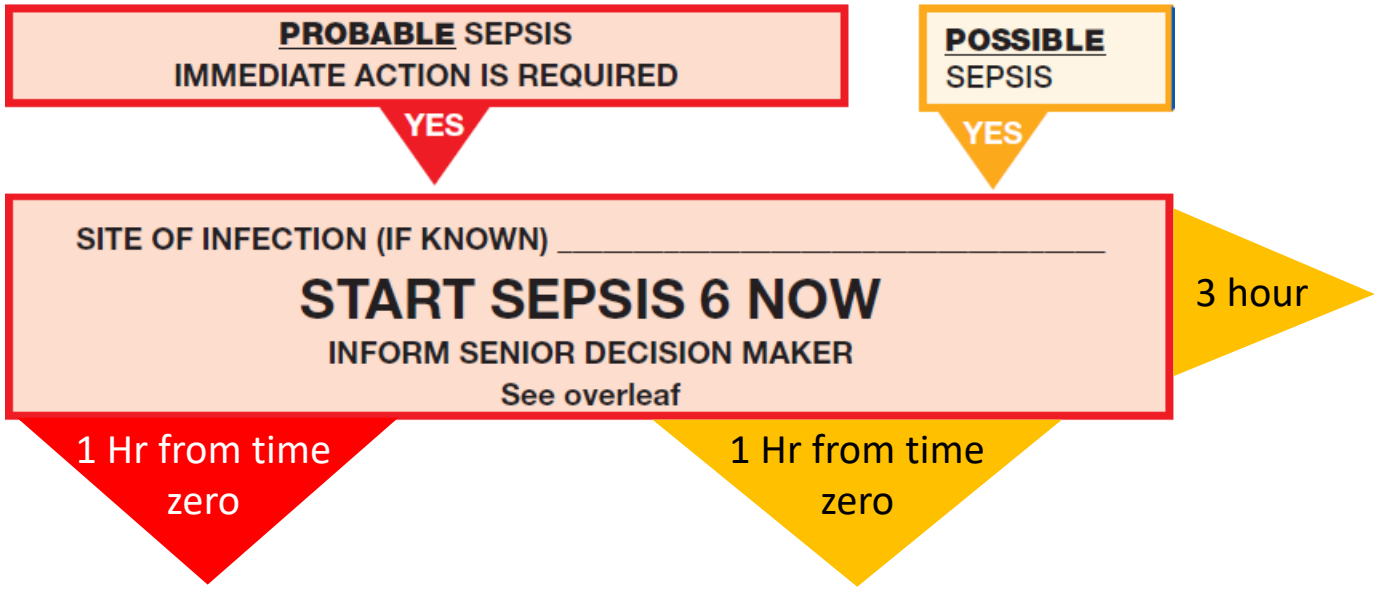
Time Given: ☐☐:☐☐
or
N/A ☐

6 GIVE OXYGEN IF REQUIRED

Titrate supplementary oxygen to maintain oxygen saturations 94-96% (88-92% for patients with chronic lung disease).

Time Given: ☐☐:☐☐
or
N/A ☐

Sepsis 6 bundle timeframe



1. Take blood cultures)
2. Take blood tests + lactate) **TAKE 3**
3. Urinary output assessment)

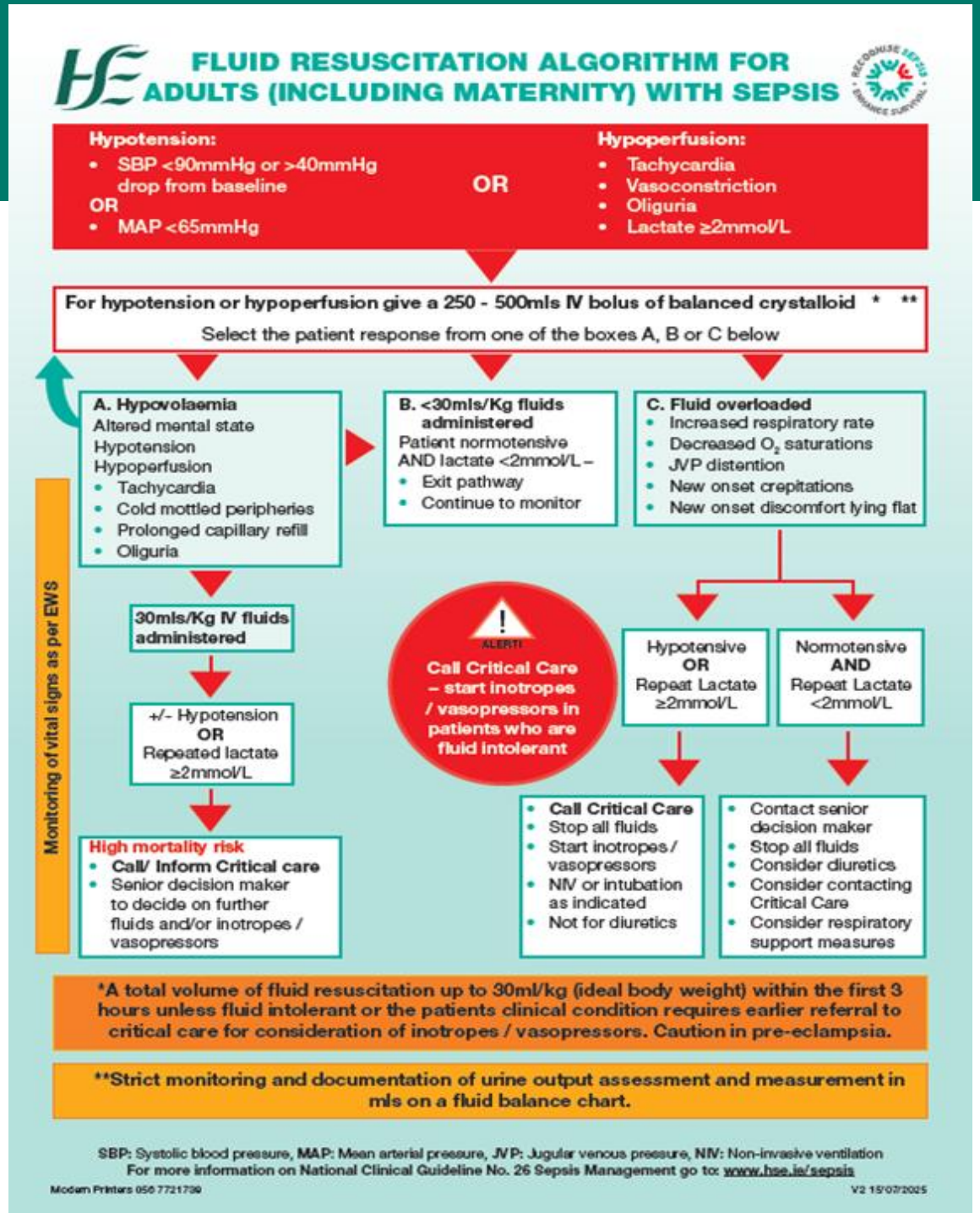
4. Antimicrobials)
5. IV Fluids if required) **GIVE 3**
6. Oxygen if required)

1. Take blood cultures)
2. Take blood tests + lactate) **TAKE 3**
3. Urinary output assessment)

5. IV Fluids if required) **GIVE 3**
6. Oxygen if required)

4. Antimicrobials:
3-hour window to determine infectious vs non-infectious in origin.
No evidence of infection – anti-microbials are not required at this time.
Evidence of infection only – antimicrobials are given within 3 hours of time zero.
Evidence of infection AND organ dysfunction, antimicrobials ASAP.

N.B
Sepsis is a time-critical medical emergency



Randomized Controlled Trial > Am J Respir Crit Care Med. 2019 Dec 15;200(12):1487-1495.
doi: 10.1164/rccm.201903-0557OC.

Balanced Crystalloids versus Saline in Sepsis. A Secondary Analysis of the SMART Clinical Trial

Ryan M Brown [1], Li Wang [2], Taylor D Coston [3], Nathan I Krishnan [3], Jonathan D Casey [1], Jonathan P Wanderer [4 5], Jesse M Ehrenfeld [4 5 6 7], Daniel W Byrne [2], Joanna L Stollings [8], Edward D Siew [9], Gordon R Bernard [1], Wesley H Self [10], Todd W Rice [1], Matthew W Semler [1]

Randomized Controlled Trial > N Engl J Med. 2018 Mar 1;378(9):829-839.
doi: 10.1056/NEJMoa1711584. Epub 2018 Feb 27.

Balanced Crystalloids versus Saline in Critically Ill Adults

Matthew W Semler [1], Wesley H Self [1], Jonathan P Wanderer [1], Jesse M Ehrenfeld [1], Li Wang [1], Daniel W Byrne [1], Joanna L Stollings [1], Avinash B Kumar [1], Christopher G Hughes [1], Antonio Hernandez [1], Oscar D Guillamondegui [1], Addison K May [1], Liza Weavind [1], Jonathan D Casey [1], Edward D Siew [1], Andrew D Shaw [1], Gordon R Bernard [1], Todd W Rice [1]; SMART Investigators and the Pragmatic Critical Care Research Group

Ongoing Review

Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

- ☐ Sepsis UNLIKELY at this time, treat as per working diagnosis, continue to monitor. Rescreen if deteriorates
- ☐ This is likely to be SEPSIS at this time
- ☐ Senior Clinician informed

Signature _____ MCRN / NMBI (ANP) _____

Print _____ Date: ___/____/_____ Time ☐☐:☐☐

Consider transfer to higher level of care (internal or external)

Other specialist involvement may also be needed, such as consultant microbiology, intensivist, anaesthesiologist or interventional radiologist

Clinical Diagnosis of Sepsis & Septic Shock

Sepsis diagnosis is confirmed when there is evidence of new onset organ dysfunction as a result of infection. Pragmatically, sepsis is highly likely to be present if any of the following criteria are met:

Cardiovascular: Systolic BP < 90mmHg, **or** Mean Arterial Pressure (MAP) < 65mmHg **or** Systolic BP more than 40mmHg below patient's normal, despite adequate fluid resuscitation
Respiratory: New or increased need for oxygen to achieve oxygen saturations > 90% (note this is a definition not a target)
Renal: Creatinine > 170micromoles/L **or** urine output < 0.5mls/Kg for 2 hours **or** < 500mls in 24hrs despite adequate fluid resuscitation
Liver: Bilirubin > 32micromol/L
Haematological: Platelets < 100 x 10^9/L
Central Nervous System: Acutely altered mental status

Note: ***the presence of an elevated lactate level > 2mmols/L despite adequate fluid resuscitation significantly increases the likelihood of a final diagnosis of sepsis in patients with an infection. However, lactate alone is neither sensitive nor specific enough to diagnose sepsis on its own (SSCGG, 2021).***

Septic shock diagnosis is confirmed when the patient requires vasopressors to maintain a mean arterial pressure (MAP) ≥65 mmHg and a serum lactate > 2 mmol/Ls despite adequate fluid resuscitation.

Alternatively, as per the Third International Consensus Definitions for Sepsis and Septic Shock (Singer et al. 2016), an increase in the Sequential Organ Failure Assessment (SOFA) score of 2 points or more above baseline represents organ dysfunction when in response to infection

Documentation of Sepsis in the Clinical Notes

Documenting the diagnosis of sepsis

- Use of the sepsis screening form will signpost HIPE coders to look for a diagnosis of sepsis in the medical notes. ***Completion of a sepsis form does not infer a sepsis diagnosis.***

Document the diagnosis of sepsis in the clinical notes when blood tests, investigations and clinical data are reviewed and there is evidence of organ dysfunction present with infection

Example of correct documentation of sepsis:

	
UTI and sepsis / septic shock	Urosepsis
Respiratory infection and sepsis / septic shock	Respiratory / Resp sepsis
Biliary infection / cholecystitis and sepsis / septic shock	Biliary / Bil sepsis
Endometritis with sepsis	Uterine sepsis

N.B – A diagnosis of urosepsis, respiratory sepsis, biliary sepsis or uterine sepsis will only be coded as infection.

Clinical documentation impact on HIPE coding & Activity Based Funding (ABF)

Example: Patient admitted with acute LRTI and respiratory sepsis

Where clinical notes do not support any further specificity, code assignment is:
Principal Dx:
J22 *Unspecified acute lower respiratory infection*

DRG: E75B *Other respiratory system diseases, minor complexity*
ABF Price: €3,515

Where clinical notes support a clear diagnosis of sepsis due to acute LRTI, code assignment is:
Principal Dx:
J22 *Unspecified acute lower respiratory infection*
Additional Diagnosis:
A41.9 *Sepsis, unspecified*

DRG: E75A *Other respiratory system diseases, major complexity*
ABF Price: €8,242

Example: Adult patient admitted with cellulitis of lower leg, sepsis is not clearly documented and the sepsis form is not completed.

Where clinical notes do not support any further specificity, code assignment is:
Principal Dx:
L03.13 *Cellulitis of lower limb*

DRG: J64B *Cellulitis, minor complexity*
ABF Price: €3,762

Where clinical notes support a clear diagnosis of sepsis with cellulitis of lower limb, code assignment is:
Principal Dx:
L03.13 *Cellulitis of lower limb*
Additional Diagnosis:
A41.9 *Sepsis, unspecified*

DRG: J46A *Cellulitis, major complexity*
ABF Price: €8,242

Topic 4

Ongoing Review and Management.

Daily Review

Daily review should include:

- ✓ Checking patient's response to treatment
- ✓ Inform the patient of their diagnosis
- ✓ Antimicrobial therapy review within 24-48 hours – Start SMART stay FOCUSED
- ✓ All results of tests and investigations reviewed
- ✓ Consult Microbiology and Antimicrobial Pharmacist
  - Stop / Change antimicrobials
  - Narrower spectrum antibiotic if possible
  - Switch IV to oral
- ✓ Source control should be carried out within 12 hours after diagnosis or clinical deterioration as required

Discharge Advice

It is very important that there is good communication with the patient and family to keep them informed of their sepsis diagnosis throughout the entire episode of care.

On discharge include

- Sepsis diagnosis on the GP discharge letter

- Ensure the patient is aware of the signs and symptoms of infection and advise them to attend their GP or return to the ED if they become unwell.

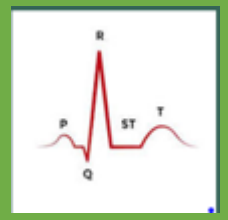
Topic 5

Sepsis in Practice.

Scenario 1

Scenario 1 – Emergency Department

- Niamh is a 40 year old female who self presented to the ED with a 24 hours history of a right swollen and painful lower leg and has a visible wound on her right ankle.
- Niamh has a medical history of Type 2 diabetes and has a high BMI.
- She reports pain which is radiating from her foot to her calf.
- Niamh was triaged as a MTS Cat 3 at 12.30 and awaits review by ED SHO

			ACVPU		Emergency Medicine Early Warning System (EMEWS)	Other	Triage
Resp 20rpm O2 Sats 96%on RA	HR 88 bpm	BP 123/65mmHg CRT 2 seconds	Alert	37.5◦C	2 Yellows	Pain Score 6 BSL- 10.2 mmol/L	Cat 3 Triage Completed at 12.30.

Rosa (SN) is caring for Niamh and receives her into a cubicle near the nurses' station.

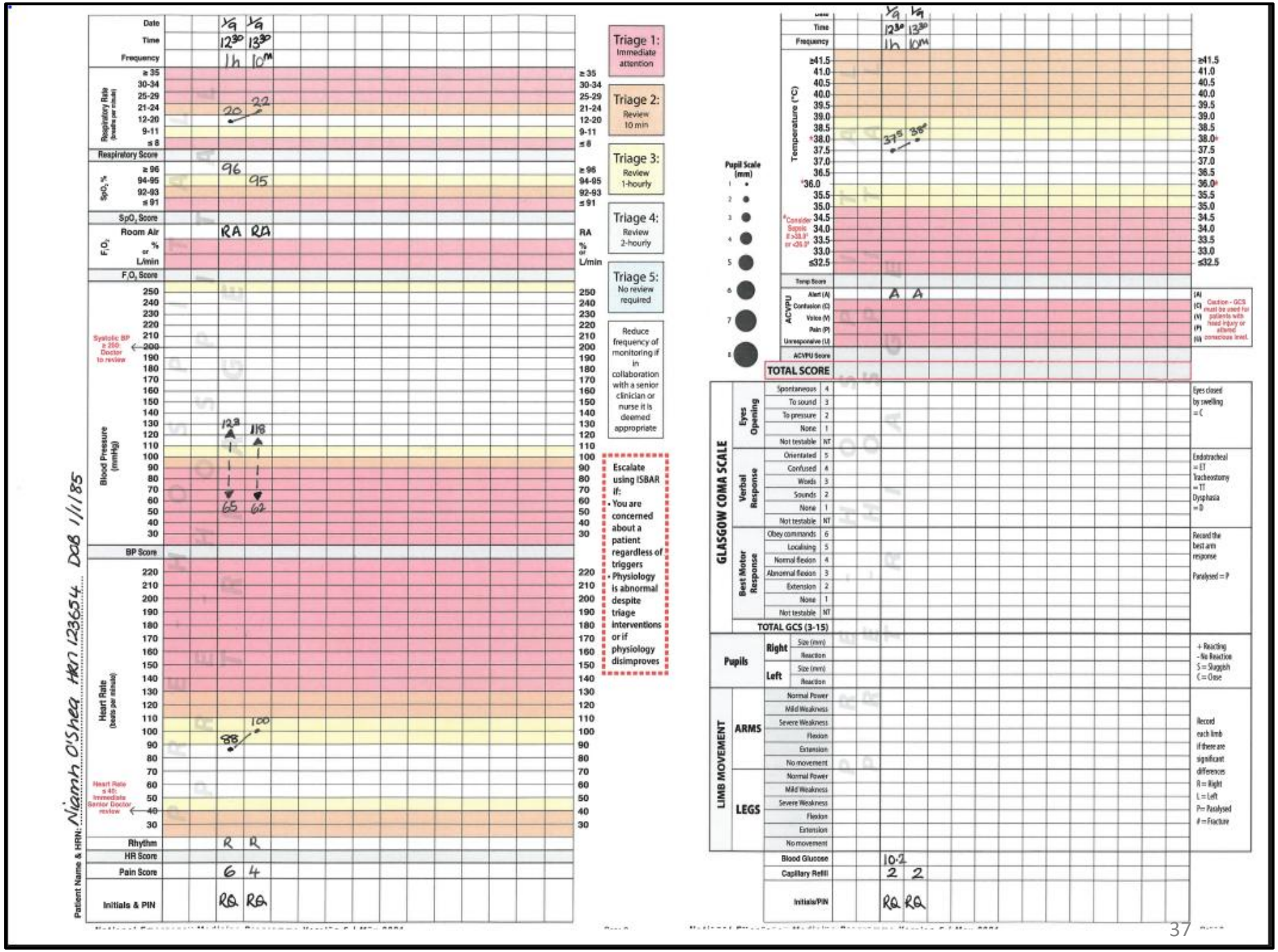
At **13.30**, Rosa notices that Niamh is pale, lethargic and looks sick. She is clinically concerned.
She records vital signs on the EMEWS chart (see trends)

RR - 22 breaths per min
SpO_2 - 95% in room air
BP – 118/62
HR – 100 beats per min
Temp - 38°C
ACVPU - A

EMEWS score = 2 yellow and 1 orange

Q 1: Does Niamh have triggers for sepsis?

Q: What are the next steps Rosa should take?



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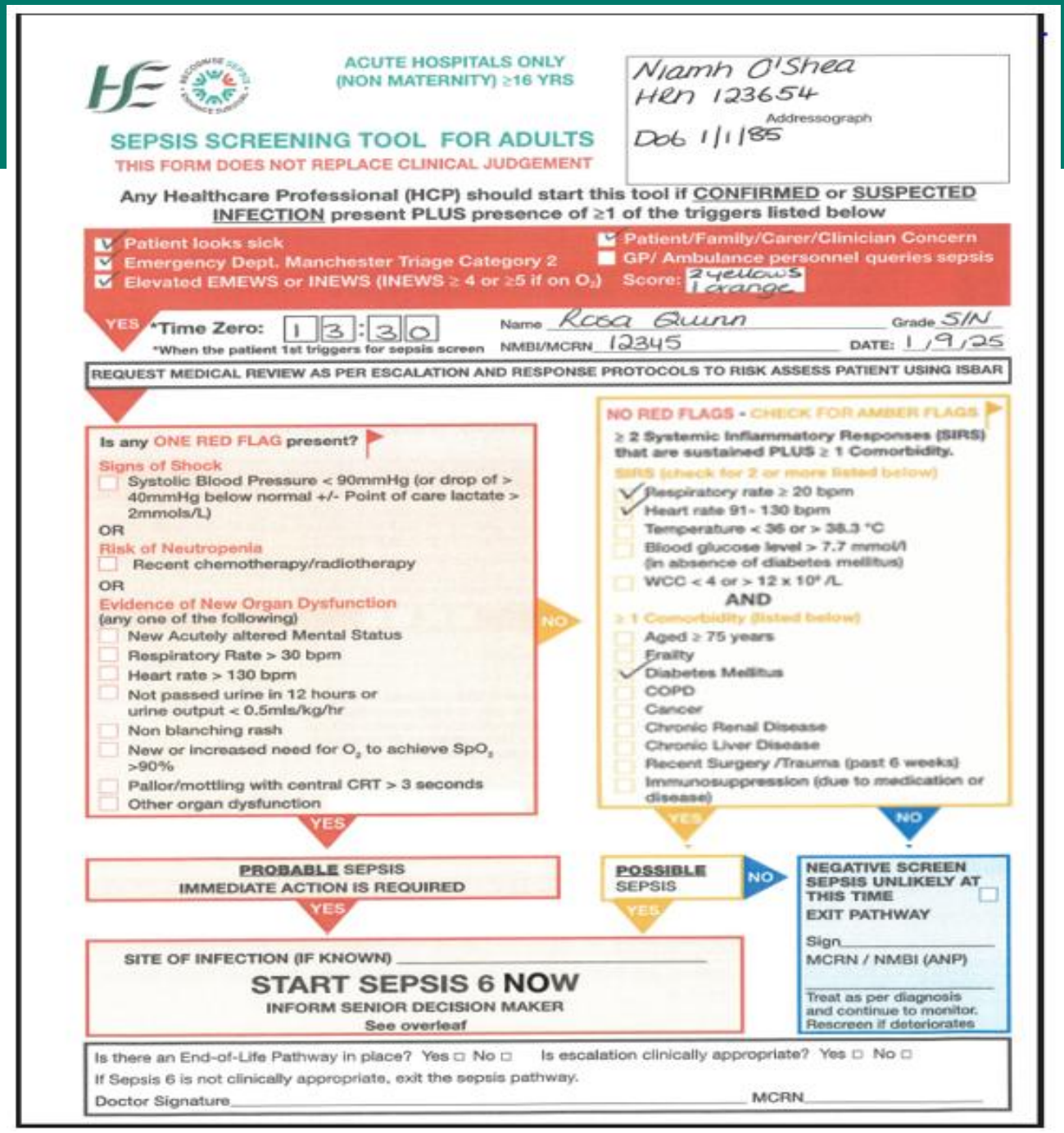
Recognition and Escalation



ACUTE HOSPITALS ONLY
(NON MATERNITY) ≥16 YRS

Niamh O'Shea
HRN 123654
Addressograph
DoB 1/1/85

SEPSIS SCREENING TOOL FOR ADULTS

THIS FORM DOES NOT REPLACE CLINICAL JUDGEMENT

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

- ☑ Patient looks sick
- ☑ Emergency Dept. Manchester Triage Category 2
- ☑ Elevated EMEWS or INEWS (INEWS ≥ 4 or ≥5 if on O_2)
- ☑ Patient/Family/Carer/Clinician Concern
- ☐ GP/ Ambulance personnel queries sepsis

Score: 2 yellows 1 orange

YES *Time Zero: 13:30
*When the patient 1st triggers for sepsis screen

Name Rosa Quinn Grade SIN
NMBI/MCRN 12345 DATE: 1/9/25

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L)

OR

Risk of Neutropenia
- ☐ Recent chemotherapy/radiotherapy

OR

Evidence of New Organ Dysfunction
(any one of the following)
- ☐ New Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate > 130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

YES

PROBABLE SEPSIS
IMMEDIATE ACTION IS REQUIRED

YES

SITE OF INFECTION (IF KNOWN) _____

START SEPSIS 6 NOW
INFORM SENIOR DECISION MAKER
See overleaf

NO

NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained PLUS ≥ 1 Comorbidity.

SIRS (check for 2 or more listed below)
- ☑ Respiratory rate ≥ 20 bpm
- ☑ Heart rate 91- 130 bpm
- ☐ Temperature < 36 or > 38.3 °C
- ☐ Blood glucose level > 7.7 mmol/l (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 12 x 10^9 /L

AND

≥ 1 Comorbidity (listed below)
- ☐ Aged ≥ 75 years
- ☐ Frailty
- ☑ Diabetes Mellitus
- ☐ COPD
- ☐ Cancer
- ☐ Chronic Renal Disease
- ☐ Chronic Liver Disease
- ☐ Recent Surgery /Trauma (past 6 weeks)
- ☐ Immunosuppression (due to medication or disease)

YES

POSSIBLE SEPSIS

YES

NO

NEGATIVE SCREEN
SEPSIS UNLIKELY AT THIS TIME ☐
EXIT PATHWAY

Sign _____
MCRN / NMBI (ANP) _____

Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

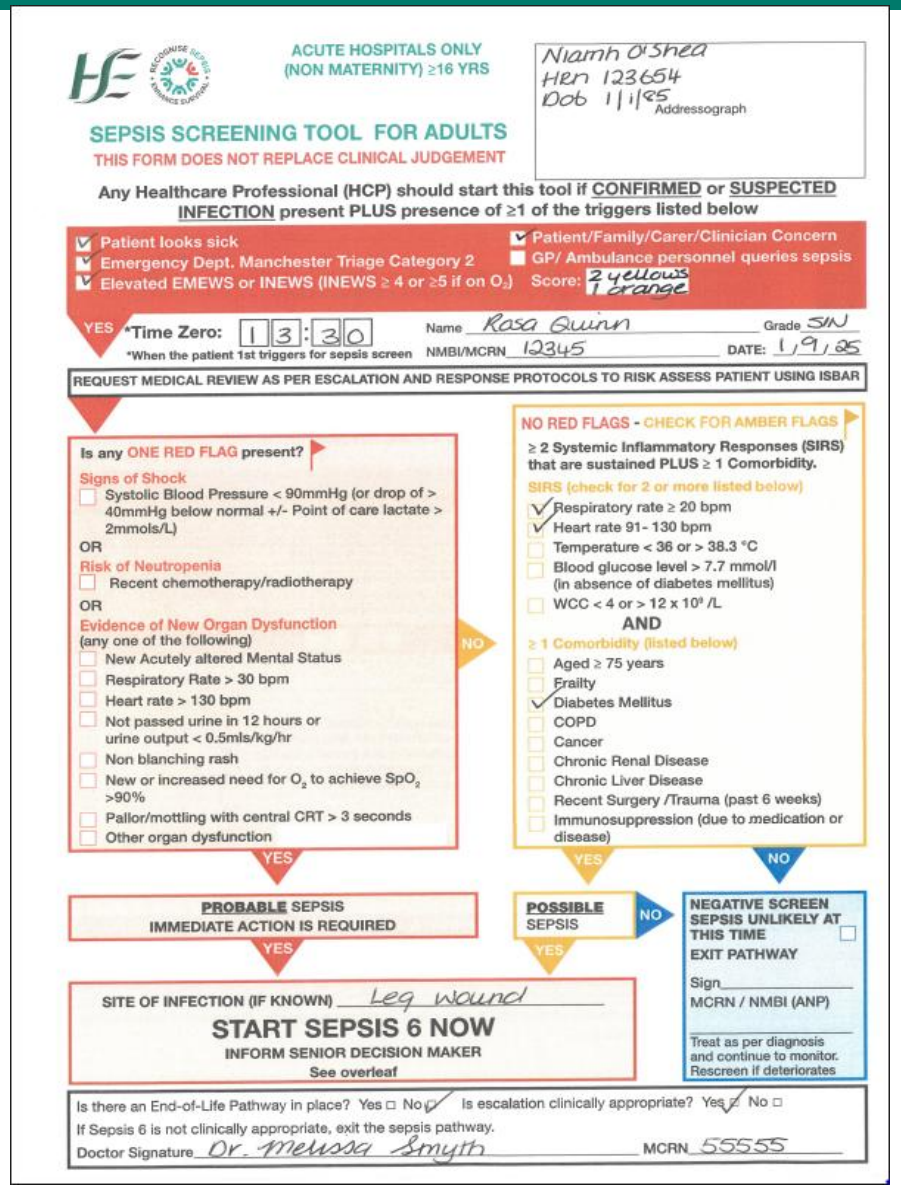
Is there an End-of-Life Pathway in place? Yes ☐ No ☐ Is escalation clinically appropriate? Yes ☐ No ☐

If Sepsis 6 is not clinically appropriate, exit the sepsis pathway.

Doctor Signature _____ MCRN _____

Medical Review

Q3: On Medical Review, what are the recommended next steps that should be taken by Dr Smyth?



ACUTE HOSPITALS ONLY
(NON MATERNITY) ≥16 YRS

Niamh O'Shea
Hcn 123654
Dob 1/1/85
Addressograph

SEPSIS SCREENING TOOL FOR ADULTS

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- ☑ Elevated EMEWS or INEWS (INEWS ≥ 4 or ≥5 if on O_2)
- ☑ Patient/Family/Carer/Clinician Concern
- ☐ GP/ Ambulance personnel queries sepsis

Score: 2 yellows 1 orange

YES *Time Zero: 13:30 Name Rosa Quinn Grade SIN
*When the patient 1st triggers for sepsis screen NMBI/MCRN 12345 DATE: 1/9/25

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L)

OR

Risk of Neutropenia
- ☐ Recent chemotherapy/radiotherapy

OR

Evidence of New Organ Dysfunction (any one of the following)
- ☐ New Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate > 130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

YES → **PROBABLE SEPSIS IMMEDIATE ACTION IS REQUIRED** → YES

NO → NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained PLUS ≥ 1 Comorbidity.

SIRS (check for 2 or more listed below)
- ☑ Respiratory rate ≥ 20 bpm
- ☑ Heart rate 91- 130 bpm
- ☐ Temperature < 36 or > 38.3 °C
- ☐ Blood glucose level > 7.7 mmol/l (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 12 x 10^9 /L

AND

≥ 1 Comorbidity (listed below)
- ☐ Aged ≥ 75 years
- ☐ Frailty
- ☑ Diabetes Mellitus
- ☐ COPD
- ☐ Cancer
- ☐ Chronic Renal Disease
- ☐ Chronic Liver Disease
- ☐ Recent Surgery /Trauma (past 6 weeks)
- ☐ Immunosuppression (due to medication or disease)

YES → **POSSIBLE SEPSIS** → YES

NO → **NEGATIVE SCREEN SEPSIS UNLIKELY AT THIS TIME** ☐
EXIT PATHWAY
Sign
MCRN / NMBI (ANP)
Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

SITE OF INFECTION (IF KNOWN) Leg wound

START SEPSIS 6 NOW
INFORM SENIOR DECISION MAKER
See overleaf

Is there an End-of-Life Pathway in place? Yes ☐ No ☑ Is escalation clinically appropriate? Yes ☑ No ☐
If Sepsis 6 is not clinically appropriate, exit the sepsis pathway.
Doctor Signature Dr. Melissa Smyth MCRN 55555

What differential diagnosis could be considered?

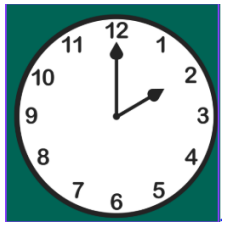
Suspected infection (right lower leg wound, swollen and red) and amber flag on sepsis screening (2 SIRS and a comorbidity).

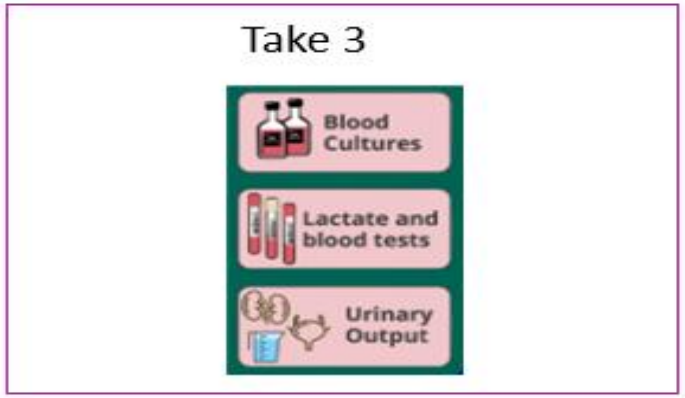
Possible cellulitis and sepsis.

Differential DX:

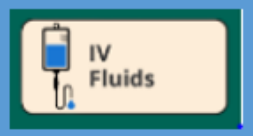
- Deep Vein Thrombosis (DVT)
- DVT assessment: d dimer bloods, measure calves
- Arrange a Doppler ultrasound

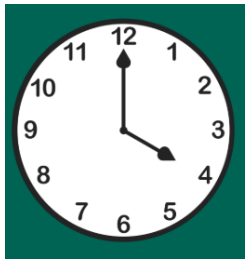
Treatment and Diagnosis
What elements of the Sepsis 6 should be administered immediately?





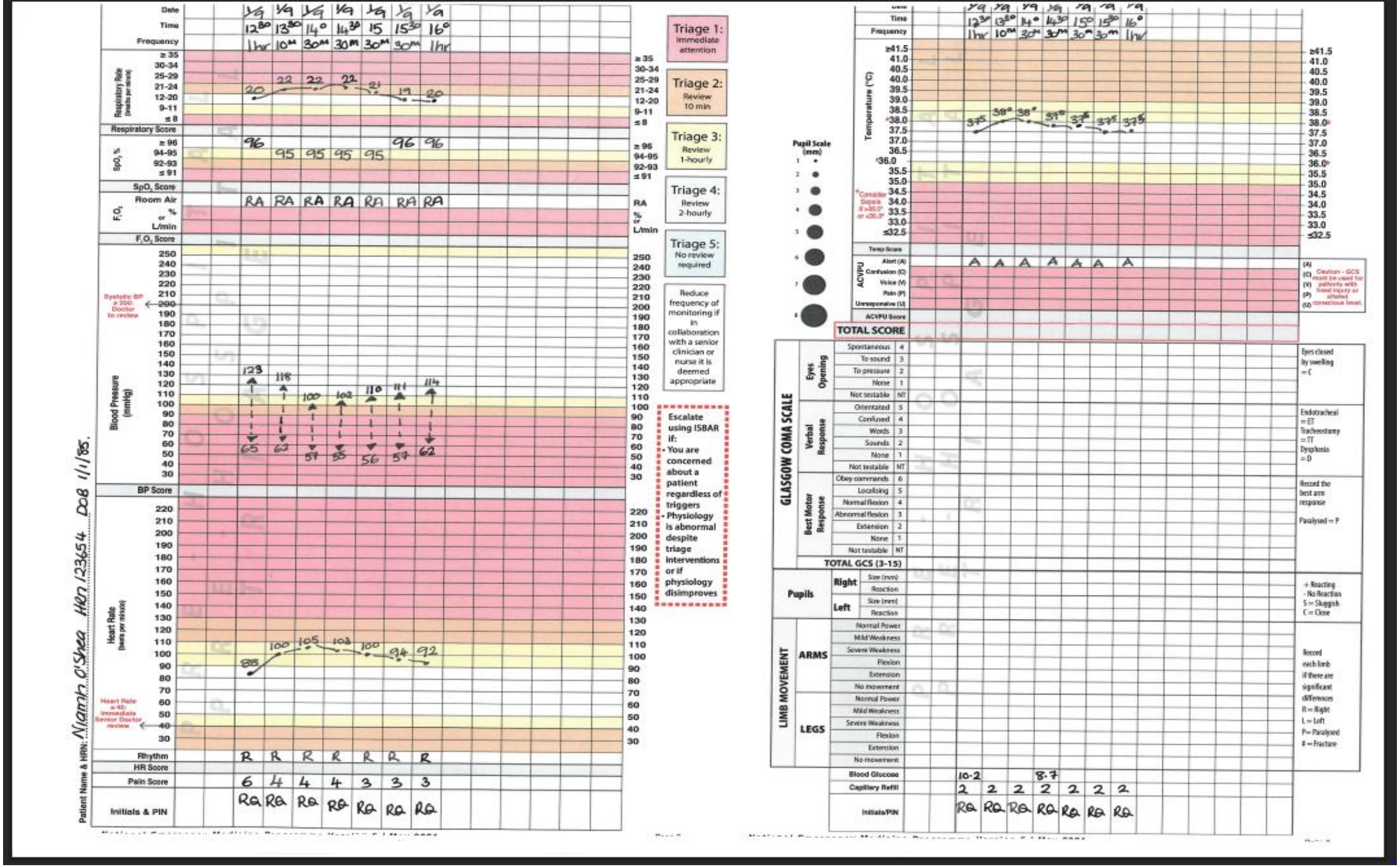
Dr Smyth reviews the Point of Care (POC) lactate 2.3 mmol/L
Dr Smyth prescribes a fluid bolus and S/N Rosa administers 1st 500mL bolus of balanced crystalloid -14.10pm
Give 3





Blood test results including repeat lactate	
Blood Tests & Investigations (2 hours from Time zero)	
WBC Neutrophils Platelets	17x 10^9/L 7.8 x 10^9/L 68 x 10^9/L
Creatinine	78 µmol/L
Bilirubin	6 µmol/L
INR	1.2 APPT 14secs
D Dimer	<500ng/mL – fibrinogen
Urine output	85mls
Lactate (repeat)	2.1

Vital signs


Triage 1: Immediate attention
Triage 2: Review 10 min
Triage 3: Review 1-hourly
Triage 4: Review 2-hourly
Triage 5: No review required
Reduce frequency of monitoring if in collaboration with a senior clinician or nurse it is deemed appropriate
Escalate using ISBAR if:
• You are concerned about a patient regardless of triggers
• Physiology is abnormal despite triage interventions or if physiology disimproves
Respiratory Score
SpO2 Score
F1O2 Score
Blood Pressure (mmHg)
BP Score
Heart Rate (beats per minute)
HR Score
Rhythm
Pain Score
Initials & PIN
Temperature (°C)
Temp Score
ACVPU
ACVPU Score
TOTAL SCORE
GLASGOW COMA SCALE
Eyes Opening
Verbal Response
Best Motor Response
TOTAL GCS (3-15)
Pupils
LIMB MOVEMENT
ARMS
LEGS
Blood Glucose
Capillary Refill
Initials/PIN

FLUID BALANCE CHART

01/09/2025

Ward: _ED

Weight: 92kg

Name:	Niamh O'Shea
HCRN:	42512
DOB:	1/01/1985

FLUID BALANCE CHART

Intake							Output					
Time	Oral Fluid	Parental Feed	Ph Aspirate	IV/SC Therapy			Cumulative Total	Urine	Vomit Aspirate	Drains	Diarrhoea ileostomy colostomy	Cumulative Total
08:00												
09:00												
10:00												
11:00												
12:00												
13:00												
14:00				Hartmanns				0				
15:00				500				120				
16:00												
17:00												
18:00												
19:00												

IV Abx with 100mls NaCl

SEPSIS TREATMENT PROTOCOL FOR ADULTS (NON MATERNITY) ≥16 YRS

SEPSIS 6 BUNDLE

- COMPLETE WITHIN 1 HOUR

Niamh O'Shea
HCN 123654
Addressograph
DOB 01/01/85

TAKE 3

1 TAKE BLOOD CULTURES

2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins. If patient has CVAD, take line cultures at the same time. Other cultures as indicated by history and examination.

Time Taken: 13:55

2 TAKE BLOOD TESTS

FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen.

If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.

Time Taken: 13:55

3 URINARY OUTPUT ASSESSMENT

Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.

Time: 14:00

Fluid balance chart commenced ☑

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN ☐☐:☐☐	TIME GIVEN 16:00

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

5 GIVE IV FLUID BOLUS IF REQUIRED

For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors, Reassess response to fluid resuscitation frequently. **Refer to fluid resuscitation algorithm.**

Time Given: 14:15 or N/A ☐

6 GIVE OXYGEN IF REQUIRED

Titrate supplementary oxygen to maintain oxygen saturations 94-96% (88-92% for patients with chronic lung disease).

Time Given: ☐☐:☐☐ or N/A ☑

Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

☐ **Sepsis UNLIKELY at this time, treat as per working diagnosis, continue to monitor. Rescreen if deteriorates**
☑ **This is likely to be SEPSIS at this time**
☑ **Senior Clinician informed**

Signature Dr M Smyth **MCRN / NMBI (ANP)** 55555
Print Dr Melissa Smyth **Date:** 01/09/25 **Time** 16:00

Modern Printers 056 7721739 V1 04/2025

Sepsis diagnosis

Cardiovascular: Systolic BP < 90mmHg, **or** Mean Arterial Pressure (MAP) < 65mmHg **or** Systolic BP more than 40mmHg below patient's normal, despite adequate fluid resuscitation
Respiratory: New or increased need for oxygen to achieve oxygen saturations > 90% (note this is a definition not a target)
Renal: Creatinine > 170micromoles/L **or** urine output < 0.5mls/Kg for 2 hours **or** < 500mls in 24hrs despite adequate fluid resuscitation
Liver: Bilirubin > 32micromol/L
Haematological: Platelets < 100 x 10^9/L
Central Nervous System: Acutely altered mental status

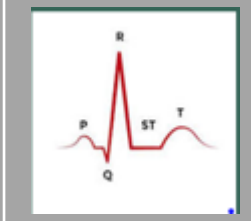
Sepsis in Practice.

Scenario 2

Scenario 2

- Tom is 65 years old and has a history of chronic lymphocytic leukaemia. He last received chemotherapy 10 days ago.
- 24 hours ago he was admitted to the orthopaedic ward following a fall at home where he fractured the neck of his left femur.
- He is awaiting surgery for repair. Tom has an implanted port in situ. He has no other medical conditions or co-morbidities. Tom's last recorded weight was 70 kg.

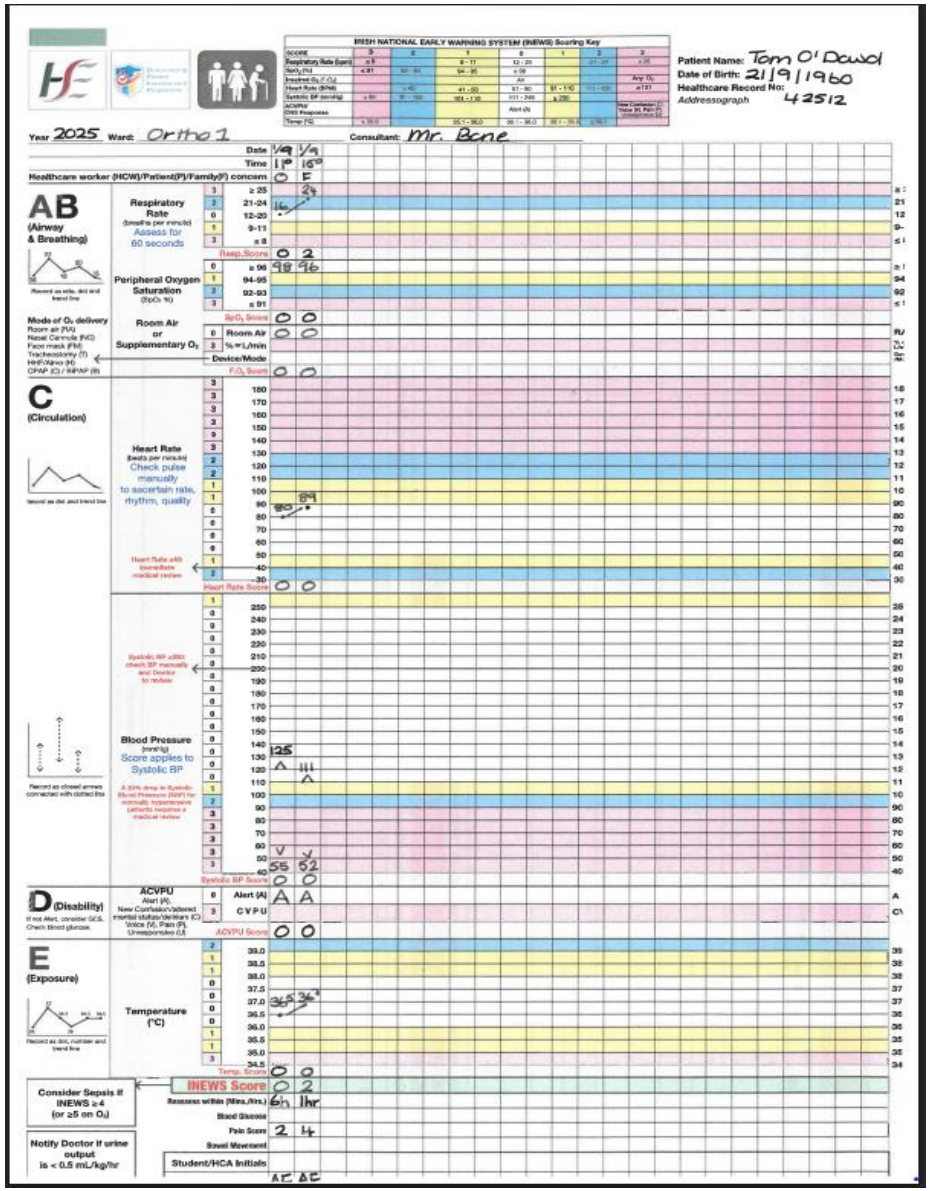
11:00

			ACVPU		INEWS Total score	Other
Resp 16 rpm O2 Sats 98 %on RA	HR 80 bpm	BP 125/55 mmHg CRT 2 seconds	Alert	36.5◦C	0	Pain Score 2

Sepsis Case 2 - Recognition

15:00

- Tom's wife reports that she is concerned for Tom as he has developed a new cough and is breathing faster than previously.
- SN Aoife assesses Tom, she is also clinically concerned that he looks unwell and documents her findings. **Repeat INEWS = 2**
- RR – 24 (2)
- SpO_2 - 96% in room air
- HR -89 beats per min
- BP – 111/52
- ACVPU – A
- Temp – 36.7°C
- Pain score increased to 4

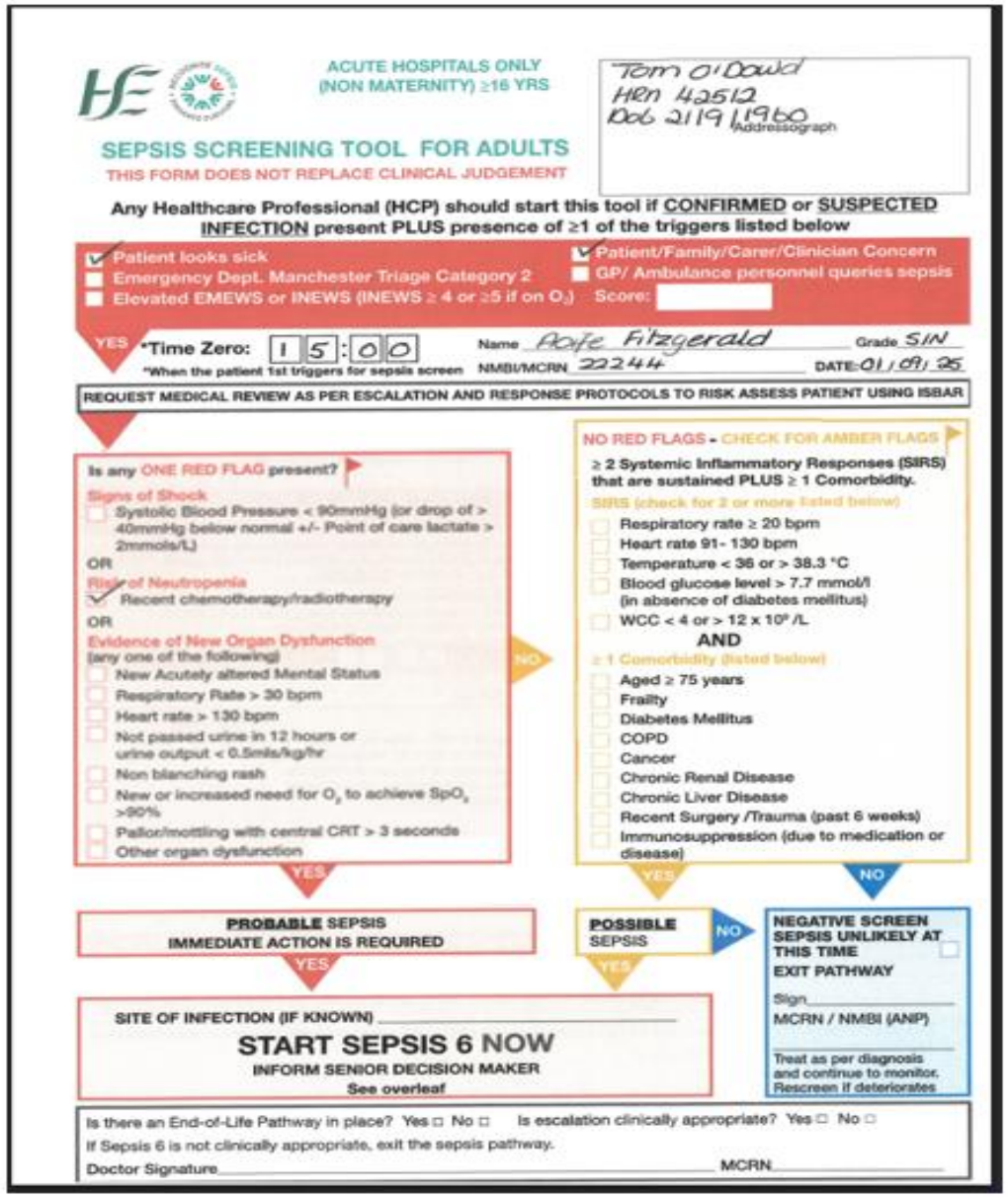


Q1. Does Tom warrant screening for sepsis?

Q2. What sepsis triggers (if any) are present based on Aoife's assessment?

Q3. What should Aoife do next?

Escalation



ACUTE HOSPITALS ONLY
(NON MATERNITY) ≥16 YRS

Tom O'Dowd
HRN 42512
DoB 21/9/1960
Addressograph

SEPSIS SCREENING TOOL FOR ADULTS

THIS FORM DOES NOT REPLACE CLINICAL JUDGEMENT

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

- ☑ Patient looks sick
- ☐ Emergency Dept. Manchester Triage Category 2
- ☐ Elevated EMEWS or INEWS (INEWS ≥ 4 or ≥5 if on O_2)
- ☑ Patient/Family/Carer/Clinician Concern
- ☐ GP/ Ambulance personnel queries sepsis

Score:

YES *Time Zero: 15:00 Name Aoife Fitzgerald Grade SIN
*When the patient 1st triggers for sepsis screen NMBI/MCRN 22244 DATE: 01/09/25

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L)

OR

Risk of Neutropenia
- ☑ Recent chemotherapy/radiotherapy

OR

Evidence of New Organ Dysfunction (any one of the following)
- ☐ New Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate > 130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

YES → **PROBABLE SEPSIS**
IMMEDIATE ACTION IS REQUIRED
YES

NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained PLUS ≥ 1 Comorbidity.

SIRS (check for 2 or more listed below)
- ☐ Respiratory rate ≥ 20 bpm
- ☐ Heart rate 91- 130 bpm
- ☐ Temperature < 36 or > 38.3 °C
- ☐ Blood glucose level > 7.7 mmol/l (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 12 x 10^9 /L

AND

≥ 1 Comorbidity (listed below)
- ☐ Aged ≥ 75 years
- ☐ Frailty
- ☐ Diabetes Mellitus
- ☐ COPD
- ☐ Cancer
- ☐ Chronic Renal Disease
- ☐ Chronic Liver Disease
- ☐ Recent Surgery /Trauma (past 6 weeks)
- ☐ Immunosuppression (due to medication or disease)

YES → **POSSIBLE SEPSIS** NO → **NEGATIVE SCREEN SEPSIS UNLIKELY AT THIS TIME**
YES
EXIT PATHWAY
Sign
MCRN / NMBI (ANP)
Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

NO

SITE OF INFECTION (IF KNOWN)

START SEPSIS 6 NOW
INFORM SENIOR DECISION MAKER
See overleaf

Is there an End-of-Life Pathway in place? Yes ☐ No ☐ Is escalation clinically appropriate? Yes ☐ No ☐
If Sepsis 6 is not clinically appropriate, exit the sepsis pathway.
Doctor Signature MCRN

ISBAR Communication Tool

I	*"Hello, this is Nurse Fitzgerald on the Orthopaedic Ward. Is that Dr Molloy, the Orthopaedic SHO? I'm calling you about Tom O'Dowd in Bed 4."* **I'm concerned**
S	*"His INEWS score is 2. Respirations are 24/min. SpO2 is 96% on room air, BP 111/55, heart rate 89, temperature 36.7°C. He is very pale and lethargic and has developed a cough with green sputum."*
B	*"He has a history of leukaemia and is 10 days post chemotherapy. He was admitted yesterday with a fractured neck of femur and is awaiting surgery."*
A	*"His respiratory rate has increased to 24/min from 16/min 4hrs ago. He has developed a cough with greenish sputum and is feeling very lethargic. I think there is a possibility that he may have sepsis. I have started the sepsis form."* 1 red flag
R	*"Can you please review him immediately to assess for sepsis?"* Time zero is 15.00 hrs

Medical Review and Treatment

ACUTE HOSPITALS ONLY
(NON MATERNITY) ≥16 YRS

Tom O'Dowd
HRN: 42512
DoB 21/09/1960
Addressograph

SEPSIS SCREENING TOOL FOR ADULTS

THIS FORM DOES NOT REPLACE CLINICAL JUDGEMENT

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

- ☑ Patient looks sick
- ☐ Emergency Dept. Manchester Triage Category 2
- ☐ Elevated EMEWS or INEWS (INEWS ≥ 4 or ≥5 if on O_2)
- ☑ Patient/Family/Carer/Clinician Concern
- ☐ GP/ Ambulance personnel queries sepsis
- Score:

YES *Time Zero: 15:00 Name Aoife Fitzgerald Grade SIN
*When the patient 1st triggers for sepsis screen NMBI/MCRN 222444 DATE: 01/09/25

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L)

OR

Risk of Neutropenia
- ☑ Recent chemotherapy/radiotherapy

OR

Evidence of New Organ Dysfunction (any one of the following)
- ☐ New Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate > 130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

YES

PROBABLE SEPSIS
IMMEDIATE ACTION IS REQUIRED

YES

SITE OF INFECTION (IF KNOWN) chest.

START SEPSIS 6 NOW
INFORM SENIOR DECISION MAKER
See overleaf

NO

NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained PLUS ≥ 1 Comorbidity.

SIRS (check for 2 or more listed below)
- ☐ Respiratory rate ≥ 20 bpm
- ☐ Heart rate 91- 130 bpm
- ☐ Temperature < 36 or > 38.3 °C
- ☐ Blood glucose level > 7.7 mmol/l (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 12 x 10^9 /L

AND

≥ 1 Comorbidity (listed below)
- ☐ Aged ≥ 75 years
- ☐ Frailty
- ☐ Diabetes Mellitus
- ☐ COPD
- ☐ Cancer
- ☐ Chronic Renal Disease
- ☐ Chronic Liver Disease
- ☐ Recent Surgery /Trauma (past 6 weeks)
- ☐ Immunosuppression (due to medication or disease)

YES

POSSIBLE SEPSIS

YES

NO

NEGATIVE SCREEN
SEPSIS UNLIKELY AT THIS TIME
EXIT PATHWAY

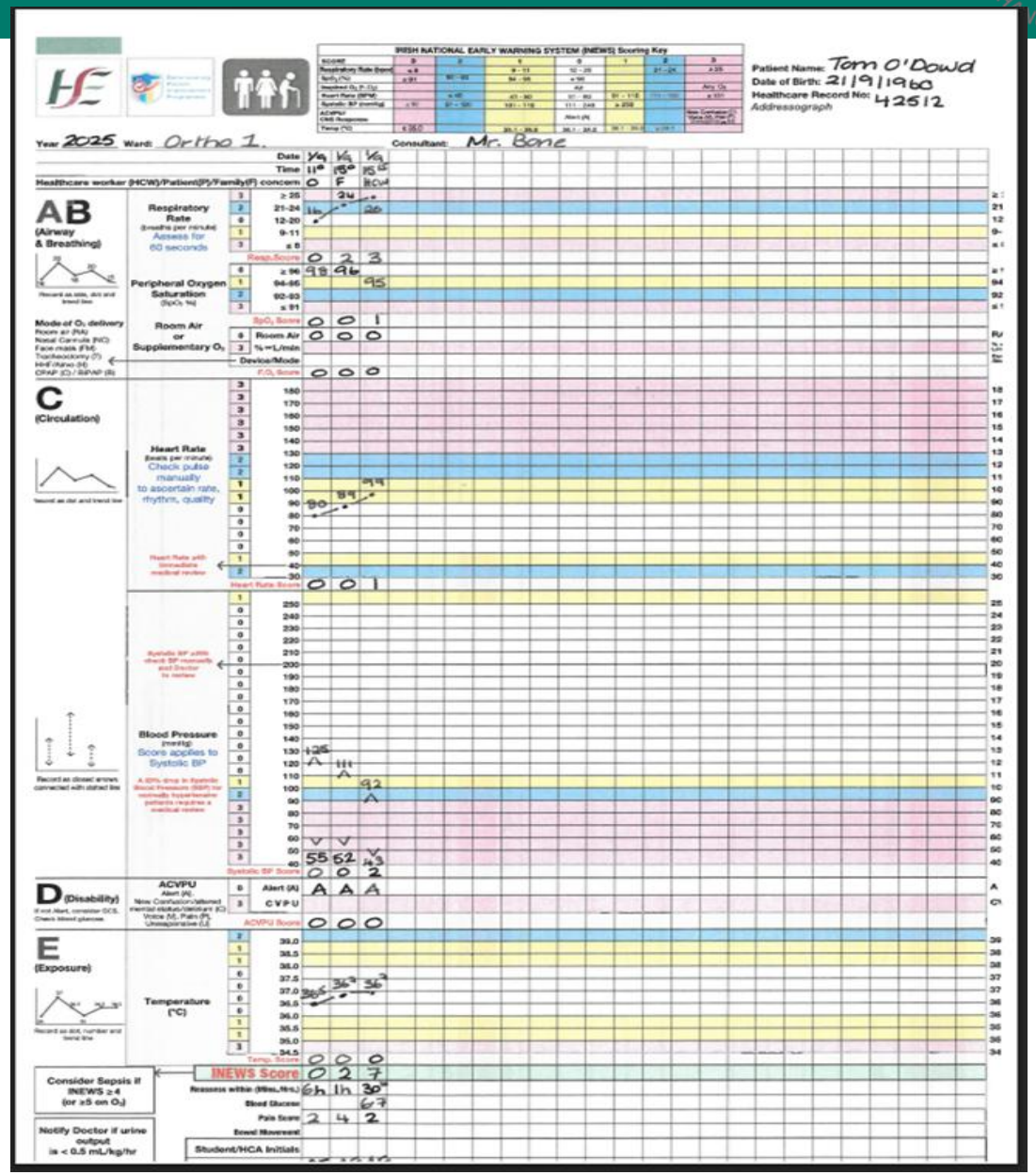
Sign
MCRN / NMBI (ANP)

Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

Is there an End-of-Life Pathway in place? Yes ☐ No ☑ Is escalation clinically appropriate? Yes ☑ No ☐

If Sepsis 6 is not clinically appropriate, exit the sepsis pathway.

Doctor Signature Dr Dara Molloy MCRN 25250



Medical Review and Treatment

FLUID BALANCE CHART

01/09/2025

Ward: _ Ortho 1

Weight: 70kg

Name: Tom O'Dowd
HCRN: 42512
DOB: 21/09/1960

FLUID BALANCE CHART

Intake							Output					
Time	Oral Fluid	Parental Feed	Ph Aspirate	IV/SC Therapy			Cumulative Total	Urine	Vomit Aspirate	Drains		Diarrhoea ileostomy colostomy	Cumulative Total
08:00													
09:00													
10:00													
11:00													
12:00													
13:00													
14:00													
15:00				Hartmanns				0					
16:00				500									
17:00													
18:00													
19:00													
20:00													
21:00													

SEPSIS TREATMENT PROTOCOL FOR ADULTS (NON MATERNITY) ≥16 YRS

SEPSIS 6 BUNDLE - COMPLETE WITHIN 1 HOUR

Tom O'Dowd
DoB: 21/09/1960
Addressograph
HRN: 42512

TAKE 3

1 TAKE BLOOD CULTURES
2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins. If patient has CVAD, take line cultures at the same time. Other cultures as indicated by history and examination.
Time Taken: 15:15

2 TAKE BLOOD TESTS
FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen.
If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.
Time Taken: 15:15

3 URINARY OUTPUT ASSESSMENT
Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.
Time: 15:15
Fluid balance chart commenced ☑

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

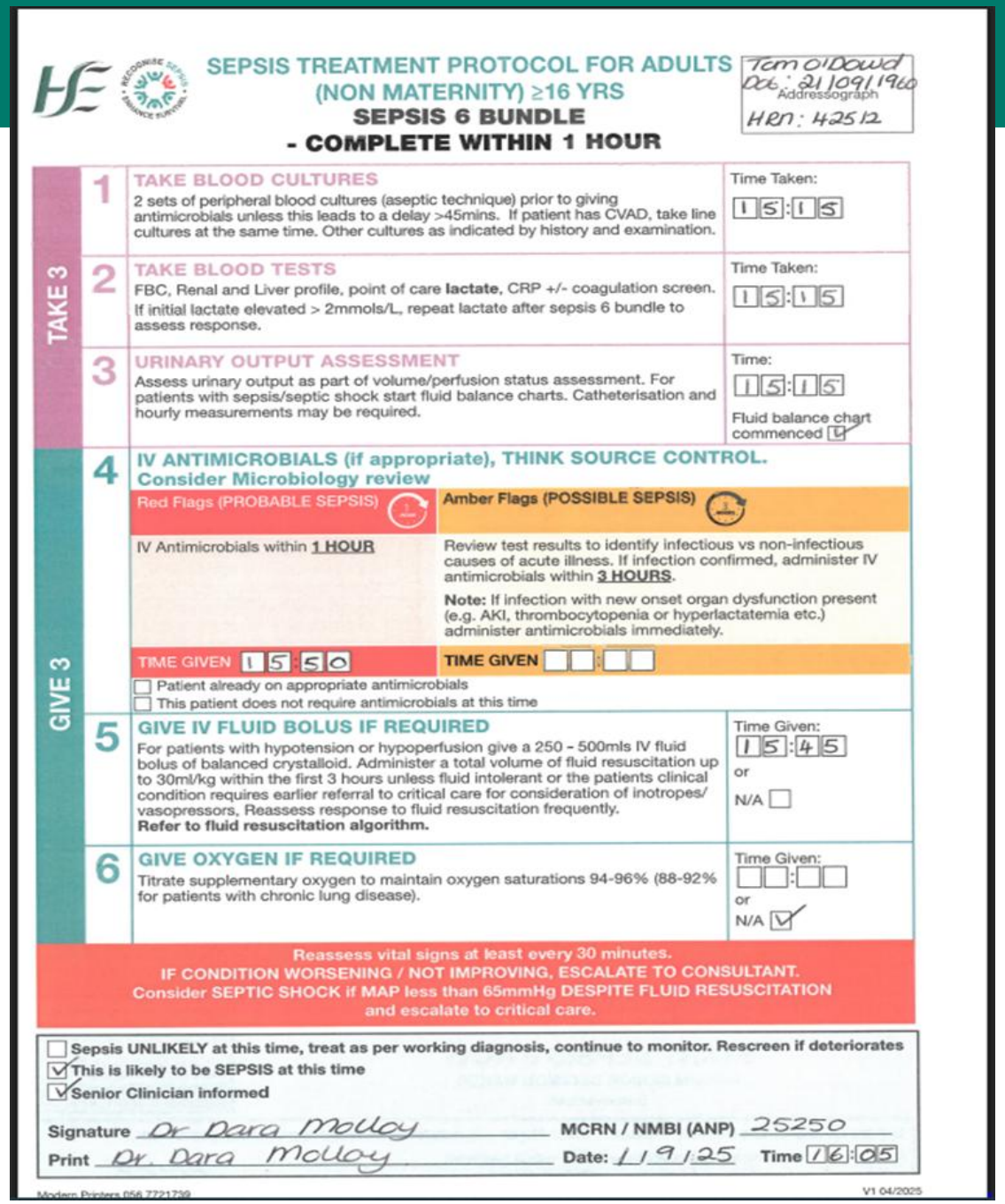
Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN 15:50	TIME GIVEN ☐☐:☐☐

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

5 GIVE IV FLUID BOLUS IF REQUIRED
For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors, Reassess response to fluid resuscitation frequently.
Refer to fluid resuscitation algorithm.
Time Given: 15:45 or N/A ☐

6 GIVE OXYGEN IF REQUIRED
Titrate supplementary oxygen to maintain oxygen saturations 94-96% (88-92% for patients with chronic lung disease).
Time Given: ☐☐:☐☐ or N/A ☑

Medical Review and Treatment



SEPSIS TREATMENT PROTOCOL FOR ADULTS (NON MATERNITY) ≥16 YRS

SEPSIS 6 BUNDLE

- COMPLETE WITHIN 1 HOUR

Tom O'Dowd
DOB: 21/09/1960
Addressograph
HRN: 42512

TAKE 3

1 TAKE BLOOD CULTURES
2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins. If patient has CVAD, take line cultures at the same time. Other cultures as indicated by history and examination.
Time Taken: 15:15

2 TAKE BLOOD TESTS
FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen.
If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.
Time Taken: 15:15

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Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.
Time: 15:15
Fluid balance chart commenced ☑

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN 15:50	TIME GIVEN ☐☐:☐☐

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

5 GIVE IV FLUID BOLUS IF REQUIRED
For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors. Reassess response to fluid resuscitation frequently. **Refer to fluid resuscitation algorithm.**
Time Given: 15:45 or N/A ☐

6 GIVE OXYGEN IF REQUIRED
Titrate supplementary oxygen to maintain oxygen saturations 94-96% (88-92% for patients with chronic lung disease).
Time Given: ☐☐:☐☐ or N/A ☑

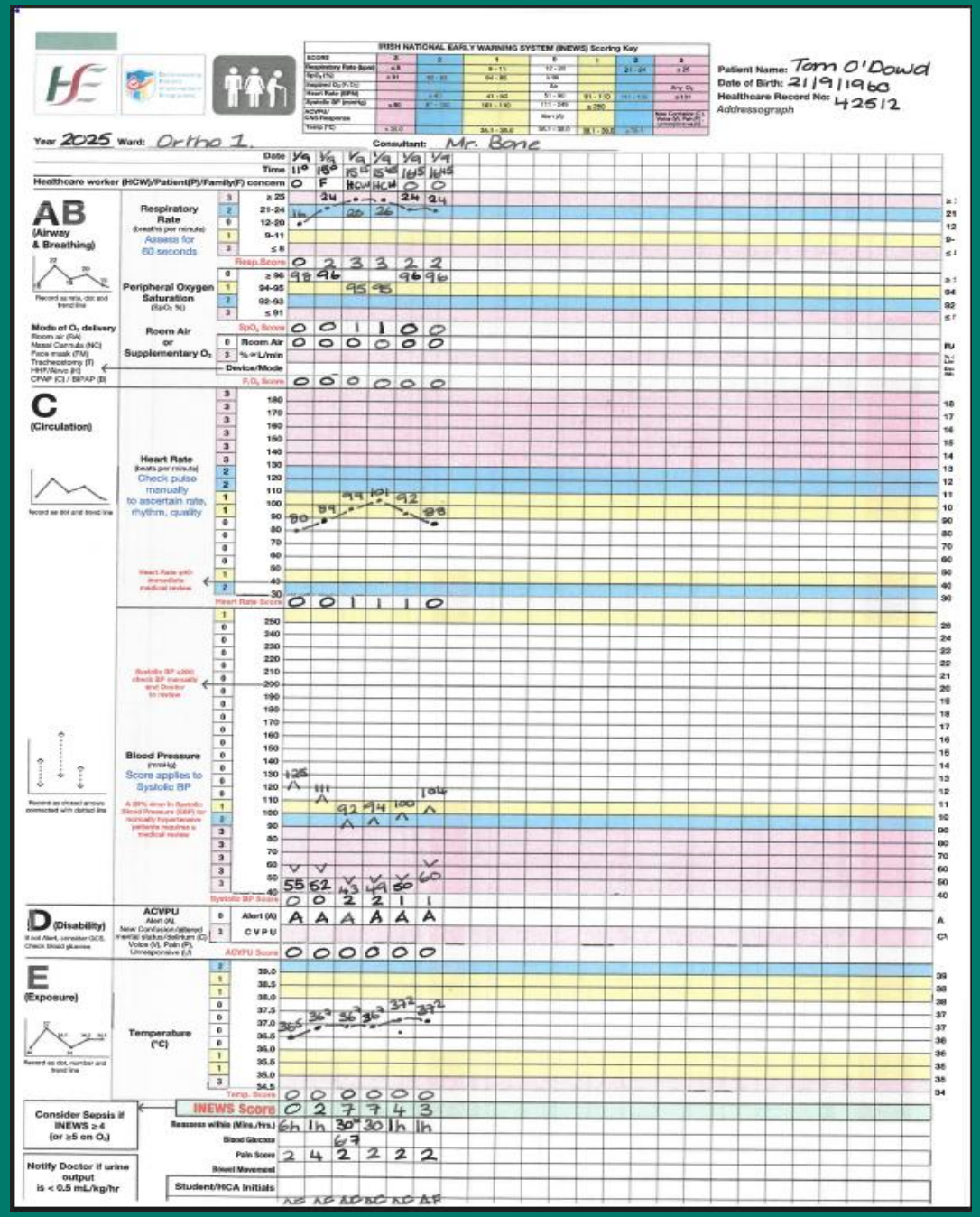
Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

☐ **Sepsis UNLIKELY at this time, treat as per working diagnosis, continue to monitor. Rescreen if deteriorates**
☑ **This is likely to be SEPSIS at this time**
☑ **Senior Clinician informed**

Signature Dr Dara Molloy MCRN / NMBI (ANP) 25250
Print Dr. Dara Molloy Date: 1/9/25 Time 16:05

Modern Printers 056 7721739 V1 04/2025

Bloods / test results including repeat lactate	
Blood Tests & Investigations	
WCC Neutrophils Platelets	3.0x 10^9/L 1.02 x 10^9/L 100 x 10^9/L
Creatinine	195 µmol/L
Bilirubin	6 µmol/L
CRT	<2 secs
INR	1.2 APPT 14secs
Portable CXR	Taken
Source control	Sputum sample taken
Fluids	1500mls in fluid boluses given
Urine output	200mls
Repeat lactate	1.8 mmols / L



FLUID BALANCE CHART

01/09/2025

Ward: _ Ortho 1

Weight: 70kg

Name: Tom O'Dowd
HCRN: 42512
DOB: 21/09/1960

FLUID BALANCE CHART

Intake							Output					
Time	Oral Fluid	Parental Feed	Ph Aspirate	IV/SC Therapy			Cumulative Total	Urine	Vomit Aspirate	Drains	Diarrhoea ileostomy colostomy	Cumulative Total
08:00												
09:00												
10:00												
11:00												
12:00												
13:00												
14:00												
15:00				Hartmanns 500		Tazocin 4.5gm	600	0				
16:00				Hartmanns 1000			1600	200				
17:00												
18:00												
19:00												
20:00												
21:00												
22:00												
23:00												

Sepsis diagnosis

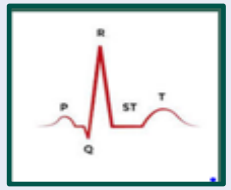
Cardiovascular: Systolic BP < 90mmHg, **or** Mean Arterial Pressure (MAP) < 65mmHg **or** Systolic BP more than 40mmHg below patient's normal, despite adequate fluid resuscitation
Respiratory: New or increased need for oxygen to achieve oxygen saturations > 90% (note this is a definition not a target)
Renal: Creatinine > 170micromoles/L **or** urine output < 0.5mls/Kg for 2 hours **or** < 500mls in 24hrs despite adequate fluid resuscitation
Liver: Bilirubin > 32micromol/L
Haematological: Platelets < 100 x 10^9/L
Central Nervous System: Acutely altered mental status

Sepsis in Practice.

Scenario 3

Scenario 3: Maternity

- Kaitlyn is a 39 year-old woman, 2/7 post vaginal delivery, with a history of prolonged rupture of membranes for which she received prophylactic antibiotics in labour as per local guideline.
- She has no previous medical history of note.
- Kaitlyn's weight is 68kg.

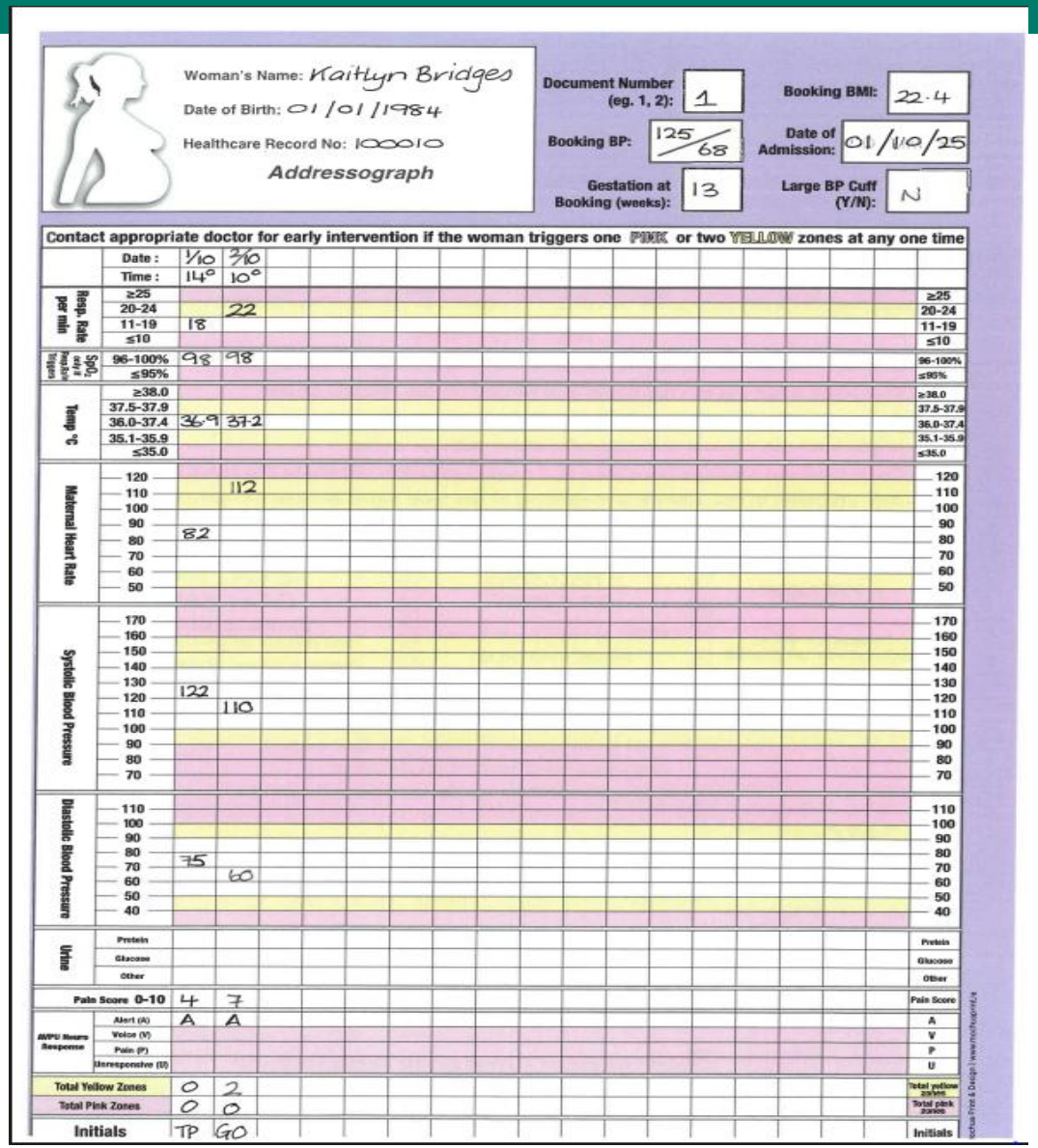
			ACVPU		IMEWS	Other
Resp 22 rpm O2 Sats 98 %on RA	HR 112 bpm	BP 110/60 mmHg	Alert	37.2◦C	2 Yellows	Pain Score 7
1 Yellow (IMEWS)	1 Yellow (IMEWS)					

Postnatal assessment of note

Feeling unwell with generalised body aches. Breasts slightly engorged. Pain score 7. Postnatal blood loss - moderate, red and foul smelling. SM Grace is clinically concerned about Kaitlyn.

Q1. What should Grace consider as her next steps?

Recognition and Escalation

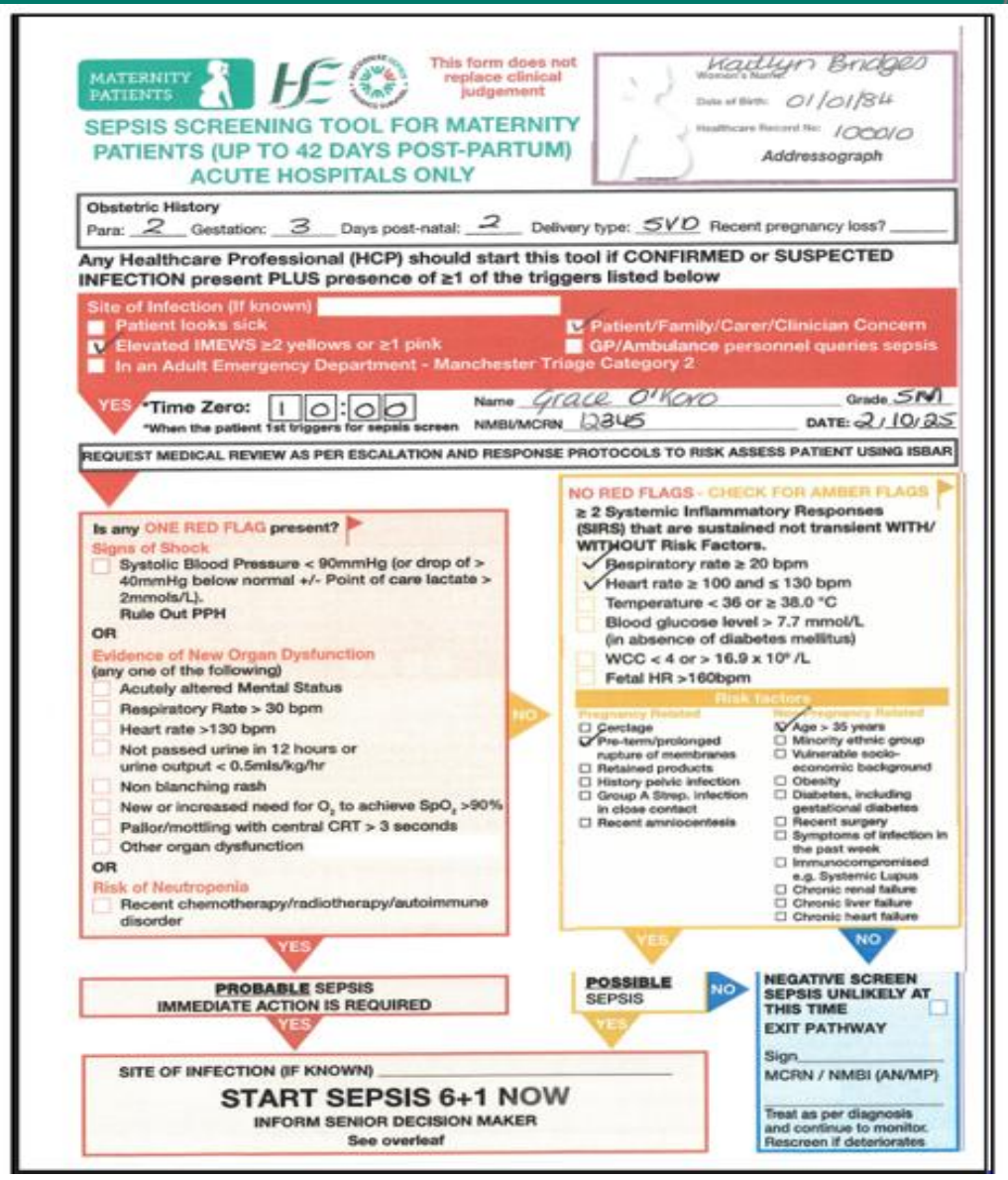


Woman's Name: Kaitlyn Bridges
Date of Birth: 01/01/1984
Healthcare Record No: 100010
Addressograph

Document Number (eg. 1, 2): 1
Booking BMI: 22.4
Booking BP: 125/68
Date of Admission: 01/10/25
Gestation at Booking (weeks): 13
Large BP Cuff (Y/N): N

Contact appropriate doctor for early intervention if the woman triggers one PINK or two YELLOW zones at any one time

		1/10	3/10
	Time:	14°	10°
Resp. Rate per min	≥25		
	20-24		22
	11-19	18	
	≤10		
SpO2 Red Flag Triggers	96-100%	98	98
	≤95%		
Temp °C	≥38.0		
	37.5-37.9		
	36.0-37.4	36.9	37.2
	35.1-35.9		
	≤35.0		
Maternal Heart Rate	120		
	110		112
	100		
	90		
	80	82	
	70		
	60		
	50		
Systolic Blood Pressure	170		
	160		
	150		
	140		
	130		
	120	122	
	110		110
	100		
	90		
	80		
	70		
Diastolic Blood Pressure	110		
	100		
	90		
	80		
	70	75	
	60		60
	50		
	40		
Urine	Protein		
	Glucose		
	Other		
Pain Score 0-10		4	7
AVPU Neuro Response	Alert (A)	A	A
	Voice (V)		
	Pain (P)		
	Unresponsive (U)		
Total Yellow Zones		0	2
Total Pink Zones		0	0
Initials		TP	GO



MATERNITY PATIENTS

This form does not replace clinical judgement

Kaitlyn Bridges
Date of Birth: 01/01/84
Healthcare Record No: 100010
Addressograph

SEPSIS SCREENING TOOL FOR MATERNITY PATIENTS (UP TO 42 DAYS POST-PARTUM)
ACUTE HOSPITALS ONLY

Obstetric History
Para: 2 Gestation: 3 Days post-natal: 2 Delivery type: SVD Recent pregnancy loss? ____

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

Site of Infection (If known) ____
- ☐ Patient looks sick
- ☑ Elevated MEWS ≥2 yellows or ≥1 pink
- ☐ In an Adult Emergency Department - Manchester Triage Category 2
- ☑ Patient/Family/Carer/Clinician Concern
- ☐ GP/Ambulance personnel queries sepsis

YES *Time Zero: 10:00 Name Grace O'Kara Grade SM
*When the patient 1st triggers for sepsis screen NMBI/MCRN 12345 DATE: 2/10/25

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L).
  Rule Out PPH

OR

Evidence of New Organ Dysfunction
(any one of the following)
- ☐ Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate >130 bpm
- ☐ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

OR

Risk of Neutropenia
- ☐ Recent chemotherapy/radiotherapy/autoimmune disorder

YES → **PROBABLE SEPSIS**
IMMEDIATE ACTION IS REQUIRED
YES → SITE OF INFECTION (IF KNOWN) ____
START SEPSIS 6+1 NOW
INFORM SENIOR DECISION MAKER
See overleaf

NO → NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained not transient WITH/WITHOUT Risk Factors.
- ☑ Respiratory rate ≥ 20 bpm
- ☑ Heart rate ≥ 100 and ≤ 130 bpm
- ☐ Temperature < 36 or ≥ 38.0 °C
- ☐ Blood glucose level > 7.7 mmol/L (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 16.9 x 10^9 /L
- ☐ Fetal HR >160bpm

Risk Factors

Pregnancy Related
- ☐ Cerclage
- ☑ Pre-term/prolonged rupture of membranes
- ☐ Retained products
- ☐ History pelvic infection
- ☐ Group A Strep. infection in close contact
- ☐ Recent amniocentesis

Non-Pregnancy Related
- ☑ Age > 35 years
- ☐ Minority ethnic group
- ☐ Vulnerable socio-economic background
- ☐ Obesity
- ☐ Diabetes, including gestational diabetes
- ☐ Recent surgery
- ☐ Symptoms of infection in the past week
- ☐ Immunocompromised e.g. Systemic Lupus
- ☐ Chronic renal failure
- ☐ Chronic liver failure
- ☐ Chronic heart failure

YES → **POSSIBLE** SEPSIS
NO → **NEGATIVE SCREEN SEPSIS UNLIKELY AT THIS TIME** ☐
EXIT PATHWAY
Sign ____
MCRN / NMBI (AN/MP) ____
Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

Medical Review and Treatment

MATERNITY PATIENTS

This form does not replace clinical judgement

SEPSIS SCREENING TOOL FOR MATERNITY PATIENTS (UP TO 42 DAYS POST-PARTUM) ACUTE HOSPITALS ONLY

Women's Name: Kaitlyn Bridges
Date of Birth: 01/01/84
Healthcare Record No: 100010
Addressograph

Obstetric History
Para: 2 Gestation: 3 Days post-natal: 2 Delivery type: SVD Recent pregnancy loss? ____

Any Healthcare Professional (HCP) should start this tool if CONFIRMED or SUSPECTED INFECTION present PLUS presence of ≥1 of the triggers listed below

Site of Infection (If known)
- ☐ Patient looks sick
- ☑ Elevated IMEWS ≥2 yellows or ≥1 pink
- ☐ In an Adult Emergency Department - Manchester Triage Category 2
- ☑ Patient/Family/Carer/Clinician Concern
- ☐ GP/Ambulance personnel queries sepsis

YES *Time Zero: 10:00 *When the patient 1st triggers for sepsis screen
Name Grace Okoro Grade SM
NMBI/MCRN 12345 DATE: 2/10/25

REQUEST MEDICAL REVIEW AS PER ESCALATION AND RESPONSE PROTOCOLS TO RISK ASSESS PATIENT USING ISBAR

Is any ONE RED FLAG present?

Signs of Shock
- ☐ Systolic Blood Pressure < 90mmHg (or drop of > 40mmHg below normal +/- Point of care lactate > 2mmols/L). Rule Out PPH

OR

Evidence of New Organ Dysfunction (any one of the following)
- ☐ Acutely altered Mental Status
- ☐ Respiratory Rate > 30 bpm
- ☐ Heart rate >130 bpm
- ☑ Not passed urine in 12 hours or urine output < 0.5mls/kg/hr
- ☐ Non blanching rash
- ☐ New or increased need for O_2 to achieve SpO_2 >90%
- ☐ Pallor/mottling with central CRT > 3 seconds
- ☐ Other organ dysfunction

OR

Risk of Neutropenia
- ☐ Recent chemotherapy/radiotherapy/autoimmune disorder

YES → **PROBABLE SEPSIS IMMEDIATE ACTION IS REQUIRED** → YES

NO

NO RED FLAGS - CHECK FOR AMBER FLAGS

≥ 2 Systemic Inflammatory Responses (SIRS) that are sustained not transient WITH/ WITHOUT Risk Factors.
- ☑ Respiratory rate ≥ 20 bpm
- ☑ Heart rate ≥ 100 and ≤ 130 bpm
- ☐ Temperature < 36 or ≥ 38.0 °C
- ☐ Blood glucose level > 7.7 mmol/L (in absence of diabetes mellitus)
- ☐ WCC < 4 or > 16.9 x 10^9 /L
- ☐ Fetal HR >160bpm

Risk factors

Pregnancy Related
- ☐ Cerclage
- ☑ Pre-term/prolonged rupture of membranes
- ☐ Retained products
- ☐ History pelvic infection
- ☐ Group A Strep. infection in close contact
- ☐ Recent amniocentesis

Non-Pregnancy Related
- ☑ Age > 35 years
- ☐ Minority ethnic group
- ☐ Vulnerable socio-economic background
- ☐ Obesity
- ☐ Diabetes, including gestational diabetes
- ☐ Recent surgery
- ☐ Symptoms of infection in the past week
- ☐ Immunocompromised e.g. Systemic Lupus
- ☐ Chronic renal failure
- ☐ Chronic liver failure
- ☐ Chronic heart failure

YES → **POSSIBLE SEPSIS** → YES

NO → **NEGATIVE SCREEN SEPSIS UNLIKELY AT THIS TIME** ☐ **EXIT PATHWAY**
Sign ____
MCRN / NMBI (AN/MP) ____
Treat as per diagnosis and continue to monitor. Rescreen if deteriorates

SITE OF INFECTION (IF KNOWN) genital tract

START SEPSIS 6+1 NOW
INFORM SENIOR DECISION MAKER
See overleaf

Woman's Name: Kaitlyn Bridges
Date of Birth: 01/01/1984
Healthcare Record No: 100010
Addressograph

Document Number (eg. 1, 2): 1
Booking BMI: 22.4
Booking BP: 125/68
Date of Admission: 01/10/25
Gestation at Booking (weeks): 13
Large BP Cuff (Y/N): N

Contact appropriate doctor for early intervention if the woman triggers one PINK or two YELLOW zones at any one time

		1/10	2/10	2/10
	Time:	14⁰⁰	10⁰⁰	10³⁰
Resp. Rate per min	≥25			25
	20-24		22	
	11-19	18		
	≤10			
SpO_2 only if Risk Factor triggers	96-100%	98	98	98
	≤95%			
Temp °C	≥38.0			
	37.5-37.9			37.5
	36.0-37.4	36.9	37.2	
	35.1-35.9			
	≤35.0			
Maternal Heart Rate	120			120
	110		112	
	100			
	90			
	80	82		
	70			
	60			
	50			
Systolic Blood Pressure	170			
	160			
	150			
	140			
	130			
	120	122		
	110		110	
	100			
	90			90
	80			
	70			
Diastolic Blood Pressure	110			
	100			
	90			
	80			
	70	75		
	60		60	
	50			55
	40			
Urine	Protein			
	Glucose			
	Other			
Pain Score 0-10		4	7	7
AVPU Neuro Response	Alert (A)	A	A	A
	Voice (V)			
	Pain (P)			
	Unresponsive (U)			
Total Yellow Zones		0	2	2
Total Pink Zones		0	0	2
Initials		TP	GO	GO

FLUID BALANCE CHART

02/10/2025

Ward: _ Post natal ward 1

Weight: 68kg

Name: Kaitlyn Bridge
HCRN: 100010
DOB: 01/01/1984

FLUID BALANCE CHART

Intake							Output						
Time	Oral Fluid	Parental Feed	Ph Aspirate	IV/SC Therapy			Cumulative Total	Urine	Vomit Aspirate	Drains		Diarrhoea ileostomy colostomy	Cumulative Total
08:00													
09:00													
10:00				Hartmanns				0					
11:00				500									
12:00													
13:00													
14:00													
15:00													
16:00													
17:00													

MATERNITY PATIENTS

SEPSIS TREATMENT PROTOCOL FOR MATERNITY PATIENTS (UP TO 42 DAYS POST-PARTUM)

SEPSIS 6+1 BUNDLE - COMPLETE WITHIN 1 HOUR

Kaitlyn Bridges
DoB 01/01/84
Addressograph
HRN 100010

TAKE 3

1 TAKE BLOOD CULTURES
2 sets of peripheral blood cultures (aseptic technique) prior to giving antimicrobials unless this leads to a delay >45mins, and other cultures as per examination.
Time Taken: 10:30

2 TAKE BLOOD TESTS
FBC, Renal and Liver profile, point of care **lactate**, CRP +/- coagulation screen.
If initial lactate elevated > 2mmols/L, repeat lactate after sepsis 6 bundle to assess response.
Time Taken: 10:30

3 URINARY OUTPUT ASSESSMENT
Assess urinary output as part of volume/perfusion status assessment. For patients with sepsis/septic shock start fluid balance charts. Catheterisation and hourly measurements may be required.
Time: 10:15
Fluid balance chart commenced ☑

+1 IF PREGNANT ASSESS FETAL WELLBEING
Time Completed: ☐☐:☐☐
N/A ☑

GIVE 3

4 IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

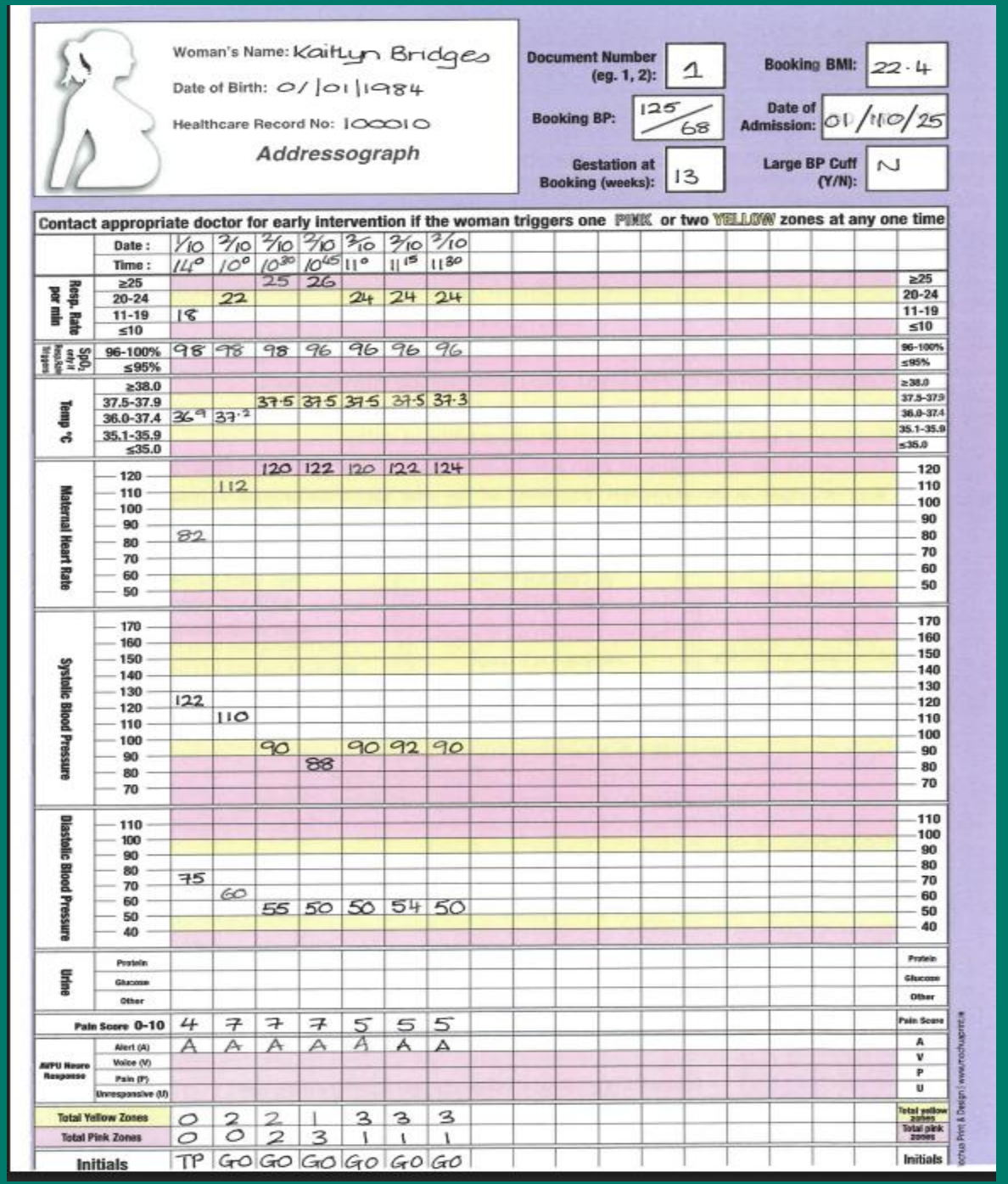
Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious vs non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN 10:50	TIME GIVEN ☐☐:☐☐

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

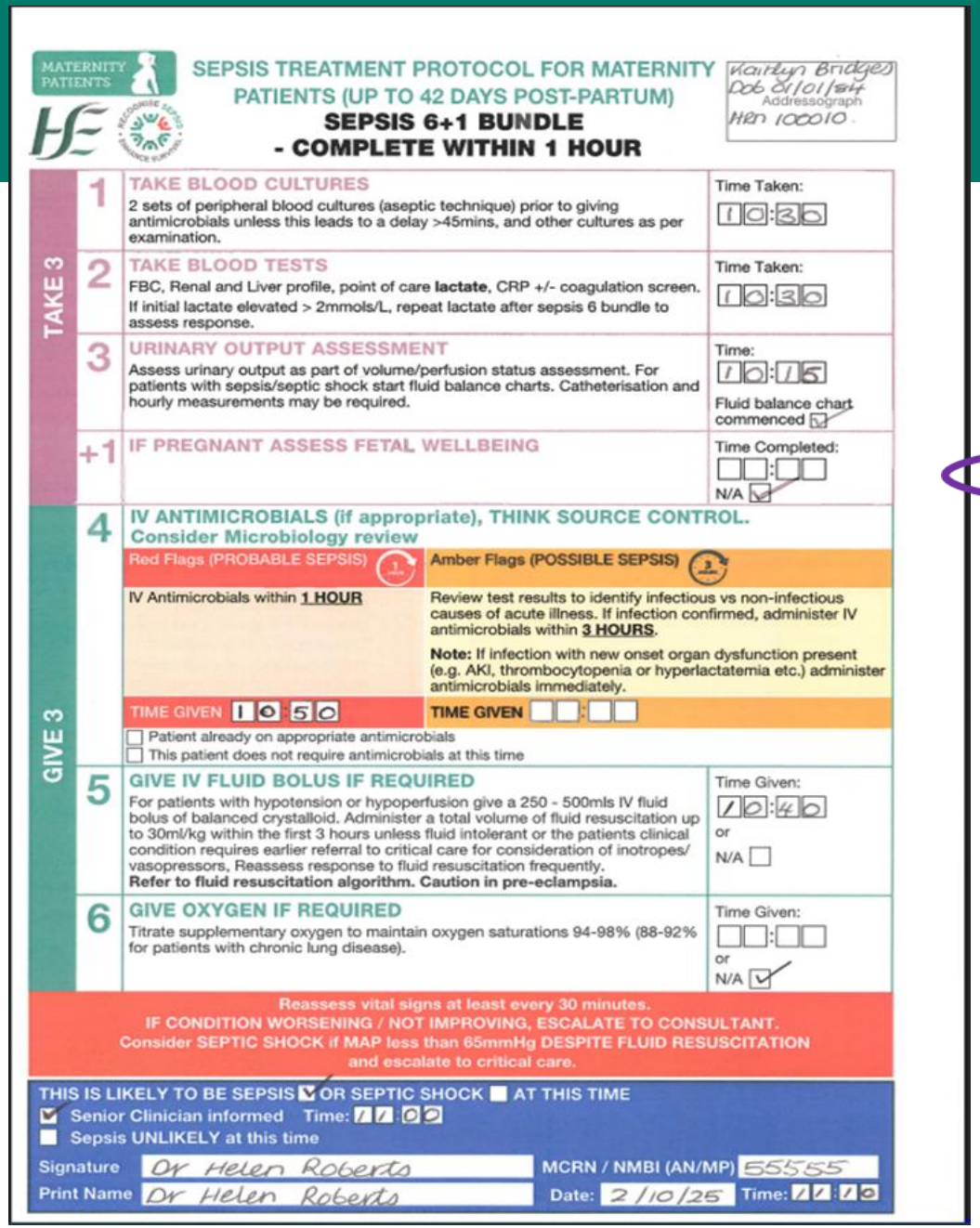
5 GIVE IV FLUID BOLUS IF REQUIRED
For patients with hypotension or hypoperfusion give a 250 - 500mls IV fluid bolus of balanced crystalloid. Administer a total volume of fluid resuscitation up to 30ml/kg within the first 3 hours unless fluid intolerant or the patients clinical condition requires earlier referral to critical care for consideration of inotropes/ vasopressors, Reassess response to fluid resuscitation frequently.
Refer to fluid resuscitation algorithm. Caution in pre-eclampsia.
Time Given: 10:40
or
N/A ☐

6 GIVE OXYGEN IF REQUIRED
Titrate supplementary oxygen to maintain oxygen saturations 94-98% (88-92% for patients with chronic lung disease).
Time Given: ☐☐:☐☐
or
N/A ☑

Blood test results including repeat lactate	
Blood Tests & Investigations (2 hours from Time zero)	
WBC Platelets	20 x 10^9/L 100 x 10^9/L
Creatinine	160 µmol/L
Bilirubin	6 µmol/L
INR	1.2 APPT 14secs
POC Glucose	7.8 mmol/L
Urine output	100mls - post 2000mls of balanced crystalloids
Lactate (repeat)	2.2mmol/L



Form completion and Sepsis diagnosis



MATERNITY PATIENTS

SEPSIS TREATMENT PROTOCOL FOR MATERNITY PATIENTS (UP TO 42 DAYS POST-PARTUM)

SEPSIS 6+1 BUNDLE

- COMPLETE WITHIN 1 HOUR

Kaitlyn Bridges DoB 01/01/84 Addressograph HRN 100010

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Time Completed: ☐☐:☐☐
N/A ☑

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Refer to fluid resuscitation algorithm. Caution in pre-eclampsia.
Time Given: 10:40 or N/A ☐

6 GIVE OXYGEN IF REQUIRED
Titrate supplementary oxygen to maintain oxygen saturations 94-98% (88-92% for patients with chronic lung disease).
Time Given: ☐☐:☐☐ or N/A ☑

Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

THIS IS LIKELY TO BE SEPSIS ☑ OR SEPTIC SHOCK ☐ AT THIS TIME
☑ Senior Clinician informed Time: 11:00
☐ Sepsis UNLIKELY at this time

Signature Dr Helen Roberts MCRN / NMBI (AN/MP) 55555
Print Name Dr Helen Roberts Date: 2/10/25 Time: 11:10

Cardiovascular: Systolic BP < 90mmHg, **or** Mean Arterial Pressure (MAP) < 65mmHg **or** Systolic BP more than 40mmHg below patient's normal, despite adequate fluid resuscitation
Respiratory: New or increased need for oxygen to achieve oxygen saturations > 90% (note this is a definition not a target)
Renal: Creatinine > 170micromoles/L **or** urine output < 0.5mls/Kg for 2 hours **or** < 500mls in 24hrs despite adequate fluid resuscitation
Liver: Bilirubin > 32micromol/L
Haematological: Platelets < 100 x 10^9/L
Central Nervous System: Acutely altered mental status

Q 2. Who would Dr Roberts inform of Kaitlyn's condition?

Clinical and Public Information

- ***Leaflets*** are available from Healthpromtion.ie
- "I have an infection – Could this be sepsis?" leaflets are available in **10** languages on health promotion.ie and can be printed to give to patients.

- **For further information on the Sepsis NCG go to:** http://www.hse.ie/sepsis


THANK YOU