



Sepsis Forum

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Introduction



Welcome/Housekeeping/registration



Intro to the IPC Team.



Presentation/Activities



Evaluation forms/paper or online/certificate of attendance.



GET SMART

Join the fight against the spread of infection



Aims of today's session are:

This session will discuss Sepsis and the tools and how it is used to recognise early signs of deterioration, support decision making and promote effective communication between health services.



What is Sepsis?

The body's immune system overreacts causing widespread inflammation, swelling and blood clotting. These reactions cause a significant reduction in blood pressure, which can decrease the blood supply to vital organs and starve them of oxygen. If not treated quickly, sepsis may lead to multiple organ failure and death.

(NHS England, 2015)



THE UK
SEPSIS
TRUST



[It's Sepsis - not Flu! Information for the Public - YouTube](#)

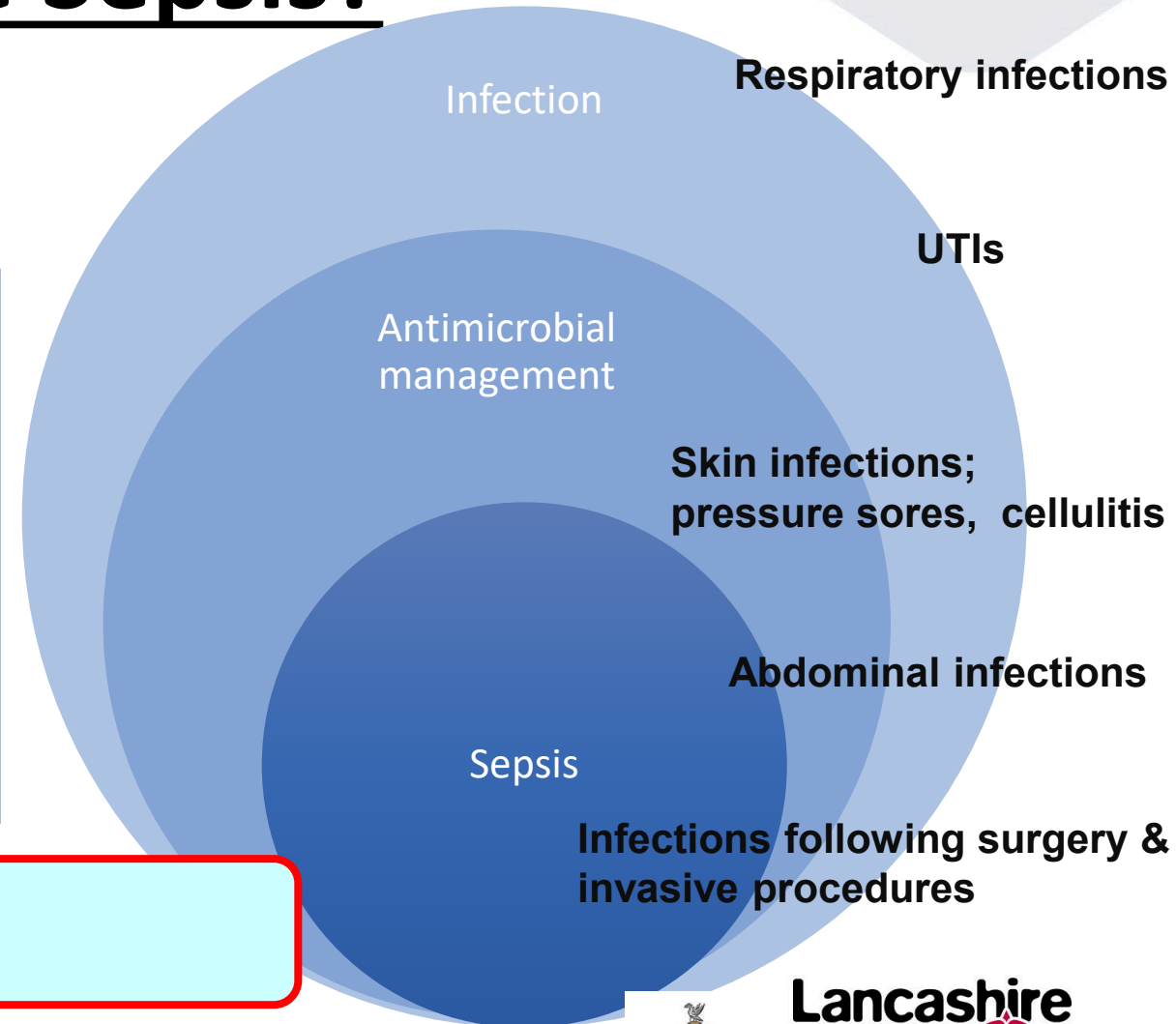


Could it be Sepsis?

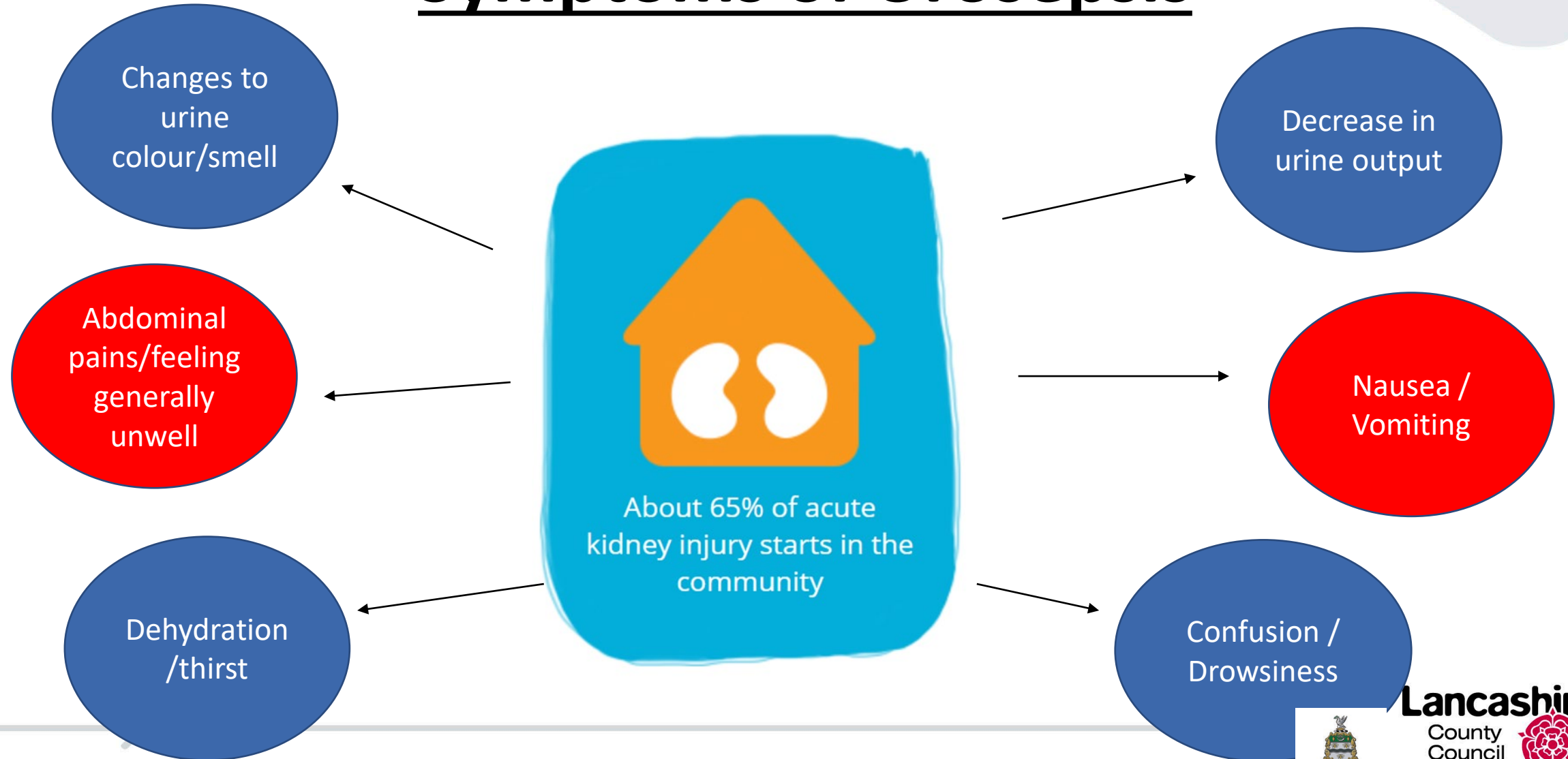
Sepsis Risk factors (care home population)

- Age > 75
- Impaired immunity (e.g. diabetes, steroids, chemotherapy)
- Recent trauma / surgery / invasive procedure
- Indwelling lines
- Broken skin

Remember: Sepsis can affect healthy people at any age



Symptoms of Urosepsis



Sepsis Screening Tool (Pre-hospital)

- High temp (fever) or low body temp
- Chills and shivering
- Fast heartbeat
- Fast breathing
- No urine output in the last 12 hours
- Cold clammy and pale or mottled skin

SEPSIS SCREENING TOOL PREHOSPITAL AGE 12+

01 START THIS CHART IF THE PATIENT LOOKS UNWELL OR NEWS2 IS 5 OR ABOVE

RISK FACTORS FOR SEPSIS INCLUDE:

Age > 75 Recent trauma / surgery / invasive procedure
 Impaired Immunity (e.g. diabetes, steroids, chemotherapy) Indwelling lines / IVDU / broken skin

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

Respiratory Urine Skin / joint / wound Indwelling device
 Brain Surgical Other

03 ANY RED FLAG PRESENT?

Objective evidence of new or altered mental state
 Systolic BP \leq 90 mmHg (or drop of $>$ 40 from normal)
 Heart rate \geq 130 per minute
 Respiratory rate \geq 25 per minute
 Needs O₂ to keep SpO₂ \geq 92% (88% in COPD)
 Non-blanching rash / mottled / ashen / cyanotic
 Lactate \geq 2 mmol/l
 Recent chemotherapy
 Not passed urine in 18 hours ($<$ 0.5ml/kg/hr if catheterised)

04 ANY AMBER FLAG PRESENT?

IF UNDER 17 & IMMUNITY IMPAIRED TREAT AS RED FLAG SEPSIS

Relatives concerned about mental status
 Acute deterioration in functional ability
 Immunosuppressed
 Trauma / surgery / procedure in last 8 weeks
 Respiratory rate 21-24
 Systolic BP 91-100 mmHg
 Heart rate 91-130 or new dysrhythmia
 Temperature $<$ 36°C
 Clinical signs of wound infection

RED FLAG SEPSIS START PH BUNDLE

FURTHER INFORMATION AND REVIEW REQUIRED:

- TRANSFER TO DESIGNATED DESTINATION
 - COMMUNICATE POTENTIAL OF SEPSIS AT HANDOVER

NO AMBER FLAGS OR UNLIKELY SEPSIS: ROUTINE CARE - CONSIDER OTHER DIAGNOSIS - SAFETY-NET & SIGNPOST AS PER LOCAL GUIDANCE

PREHOSPITAL SEPSIS BUNDLE*:

RESUSCITATION:
 Oxygen to maintain saturations of $>$ 94% (88% in COPD)
 Measure lactate if available
 250ml boluses of Sodium Chloride; max 250mls if normotensive, max 200ml if hypotensive OR Lactate $>$ 2 mmol/l

COMMUNICATION:
 Pre-alert receiving hospital.
 Divert to ED (or other agreed destination)
 Handover presence of Red Flag Sepsis

*NICE recommends rapid transfer to hospital is the priority rather than a prehospital bundle

THE UK SEPSIS TRUST
 SINCE 2019 3.2 PAGE 1 OF 1
 UKST, REGISTERED CHARITY 113863

[Sepsis-Prehospital-12-231219.pdf \(sepsistrust.org\)](https://sepsistrust.org/Sepsis-Prehospital-12-231219.pdf)

The soft signs of Physical Deterioration

What are soft signs?

PHYSICAL

MENTAL

BEHAVIOUR





Soft Sign Game



What is the National Early Warning Score (NEWS)

NEWS2 launched in December
2017

NEWS2 is a tool developed by the Royal College of Physicians, it is recognised as a highly effective system for detecting patients at risk of clinical deterioration or death.



What does obtaining a NEWS2 Score involve?

Respiration rate

Oxygen saturation levels

Blood pressure (in particular – systolic blood pressure = top reading)

Pulse rate

Level of consciousness or new onset of confusion

Temperature



National Early Warning Scores

NEWS key	FULL NAME		DATE OF BIRTH		DATE OF ADMISSION	
	0	1	2	3		
A+B Respirations (per minute)	≤8	9-11	12-20	21-24	≥25	
A+B SpO ₂ Scale 1 (% on air)	≤91	92-93	94-95	≥96		
A+B SpO ₂ Scale 2 (% on oxygen)	≤83	84-85	86-87	88-92 ≥93 on air	93-94 on oxygen	95-96 on oxygen
Air or oxygen?		Oxygen	Air			
C Systolic blood pressure (mmHg)	≤90	91-100	101-110	111-219		≥220
C Pulse (per minute)	≤40	41-50	51-90	91-110	111-130	≥131
D Consciousness			Alert			CVPU
E Temperature (°C)	≤35.0	35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	
NEWS TOTAL						
Monitoring frequency						
Escalation of care						

Chart 1: The NEWS scoring system

Physiological parameter	Score						
	3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9-11	12-20		21-24	≥25
SpO ₂ Scale 1 (%)	≤91	92-93	94-95	≥96			
SpO ₂ Scale 2 (%)	≤83	84-85	86-87	88-92 ≥93 on air	93-94 on oxygen	95-96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91-100	101-110	111-219			≥220
Pulse (per minute)	≤40		41-50	51-90	91-110	111-130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	

[11 Calculating and recording a NEWS score - YouTube](#)

Monitoring

- Based on a residents NEWS you should carry out repeat observations at the following suggested frequency.
- This should be followed unless there is a clear indication not to (for example if the resident is receiving care whilst dying).

0	at least 12 hourly until no concerns	12hrs
1	at least 6 hourly	6hrs
2	at least 2 hourly	2hrs
3-4	Single Observation 3	30mins
5-6	every 15 minutes	15mins
7+	continuous observation and monitoring until transfer	continuous



NEWS Scenario Game



Simon is an 81 year old resident who has been in your home (Sunny Hollow Residential home, 01276 623 9833) for two years. You know Simon very well. Simon is always very cheerful and engaging but has dementia. He has trouble remembering where he is and has to be supported to take his medication. However, he always recognises his daughter when she visits, and loves talking about old memories with her. Simon is physically well, and only takes some medication to lower his blood pressure. He is prone to chest infections and has just in case antibiotics in the home. when you see Simon today, he looks more withdrawn. His daughter tells you that he struggled to recognise her and thought that she was his mother. He sounded chesty when trying to sit him up.

You do a set of observations on Simon

- **Breathing: 24bpm**
- **Oxygen saturation: level 96%**
 - **Air/oxygen: Air**
- **Systolic Blood pressure: 181/68**
 - **Heart rate: 91**
- **Level of alertness: confused**
- **Temperature: 37.8**

NEWS = 6



June is a 78 year old resident (NHS number 415 267 7860) who has been in your setting (Wood Grove Cottage, 01274 993 9833) for 5 years. June usually spends most of her time in her bedroom. June is a very shy lady but communicates well with staff. June has had recurrent cellulitis due to her fragile skin. June is often catching her legs on bed frames and equipment causing breaks in the skin. Over the past few days June's leg has become red, swollen, and hot to touch. Today June has suddenly become unwell and has taken to her bed and is off her food and drink.

You do a set of observations on June

- **Breathing: 20bpm**
- **Oxygen saturation: level 95%**
 - **Air/oxygen: Air**
- Systolic Blood pressure: 223/56**
 - **Heart rate: 113**
- **Level of alertness: alert**
- **Temperature: 39.1**

NEWS = 8



Mike is a 65 year old resident (NHS number 279 456 9152) who has been in your home (Rose Meadow care home, 01253 687978) for 6 months. Mike is struggling to settle since arriving at the care home and will communicate very little with staff and other residents. Mike is a type 2 diabetic and often needs support with controlling his blood months ago. There has been an outbreak of norovirus in the setting and Mike started with vomiting yesterday evening, he has now not eaten for more than 14 hours and is struggling to keep any fluids down due to vomiting. As Mike is diabetic the staff are becoming increasingly worried.

You do a set of observations on Mike

- **Breathing: 28bpm**
- **Oxygen saturation: level 94%**
 - **Air/oxygen: Air**
- **Systolic Blood pressure: 178/60**
 - **Heart rate: 120**
- **Level of alertness: awake**
 - **Temperature: 39.0**

NEWS = 7



Eric is a 71 year old resident (NHS number 419 223 7098) who has been in your setting (Bluebell Rise, 01344 453 221) for 1 year. Eric usually spends most of his time reading in the lounge. Eric is a very friendly man and likes a good laugh. Eric this morning has woken up with left sided chest pain and feeling very clammy and not himself, wanting to stay in his room.

You do a set of observations on Eric

- **Breathing: 36bpm**
- **Oxygen saturation: level 98%**
 - **Air/oxygen: Air**
- **Systolic Blood pressure: 187/55**
 - **Heart rate: 145**
- **Level of alertness: alert**
- **Temperature: 39.2**

NEWS = 8



Fiona is a 65 year old resident (NHS number 319 223 7298) who has been in your setting (Highcross, 01344 453 221) for 3 year. Fiona usually spends most of her time chatting to other residents in the coffee area. Fiona is a very chatty and likes a good laugh. Fiona this morning has woken up not feeling herself saying her stomach is sore and not able to go to the toilet.

You do a set of observations on Fiona

- **Breathing: 25bpm**
- **Oxygen saturation: level 96%**
 - **Air/oxygen: Air**
- **Systolic Blood pressure: 168/45**
 - **Heart rate: 125**
- **Level of alertness: Confused**
 - **Temperature: 35.9**

NEWS = 9



Now we understand NEWS2 why do we need to know about RESTORE2

TheAHSNNetwork

What is RESTORE2?



RESTORE2
Recognise early soft-signs, take observations, Respond, Escalate

Adult Physiological Observation & Escalation Chart

How to use RESTORE2 and NEWS2

Reference NEWS2 (What's normal for this resident)

End of Life (EOL) or Agreed Limit of Treatment

NEWS2 Escalation (get the right help early)

NEWS2 Score	Response	Escalation
0	Check vital signs every 4 hours	All staff 4 hourly
1	Check vital signs every 2 hours	All staff 2 hourly
2	Check vital signs every 1 hour	All staff 1 hourly
3-4	Check vital signs every 30 minutes	All staff 30 min
5-6	Check vital signs every 15 minutes	Senior staff
7+	Check vital signs every 5 minutes	Senior staff

NEWS2 Grid (Left): Shows NEWS2 scores for residents A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.

NEWS2 Grid (Right): Shows NEWS2 scores for residents A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.

SBARD Escalation Tool and Action Tracker
(Get help for message at once)

Remember to say: **S**igns, **B**ehaviour, **A**ction, **R**esponse, **D**ecision

1. Signs (including vital signs and level of consciousness)

2. Behaviour (including any and all changes in behaviour and vital signs)

3. Action (including any and all actions taken)

4. Response (including any and all responses received)

5. Decision (including any and all decisions made)

- RESTORE2 is designed to support homes and health professionals to:
- Recognise when a resident may be deteriorating or at risk of physical deterioration
 - Act appropriately according to the residents care plan to protect and manage the resident
 - Obtain a complete set of physical observations to inform escalation and conversations with health professionals
 - Speak with the most appropriate health professional in a timely way to get the right support
 - Provide a concise escalation history to health professionals to support their professional decision making.





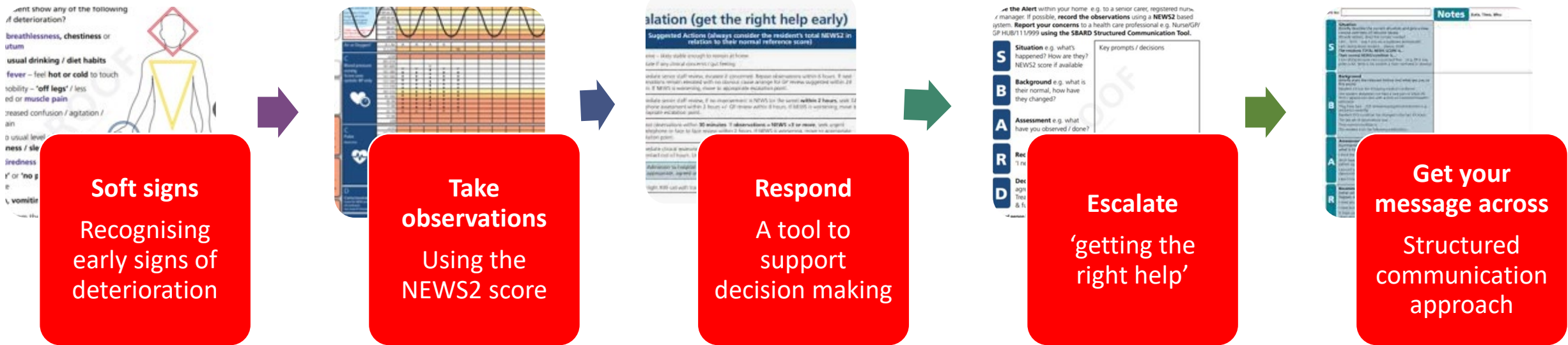
Introduction to **RESTORE2**

Recognise early soft-signs, Take observations, Respond, Escalate

RESTORE2 is a tool to help staff:



How does RESTORE2 Work?



SBAR

S

SITUATION e.g. what's happened ?how are they?
NEWS2 score if available

R

RECOMMENDATION 'I need you to.....'

B

BACKGROUND e.g. what is their normal, how have they changed?

D

DECISION what have you agreed?
(including any treatment escalation plans and further observations)

A

ASSESSMENT e.g. what have you observed/done?

Don't ignore your 'gut feeling' and what you know and see.

[12 Structured communications and escalation - YouTube](https://vimeo.com/814910714)

<https://vimeo.com/814910714>

Example answers: SBARD

Situation

XX calling from Sunny Hollow Residential Home. I am a carer

Direct line 01276 623 9833

Calling about Simon, 81 year old resident. His NEWS is 5. His normal NEWS is 0 or 1.

Concerned that he is chesty with a higher than normal breathing rate and more confused than usual.

Background

Simon has dementia. He always recognises his daughter but struggled to recognise her today and thought that she was his mother.

Simon has a DNACPR in place but is for full treatment of any reversible illness, including hospital admission. He gets recurrent chest infections.

He is currently on a blood pressure medication only. He does have antibiotics in the home.

He has deteriorated in the last XX hours and his observations are:

■ Breathing	24
■ Oxygen saturations	96%
■ Air/Oxygen	Air
■ Systolic Blood Pressure	181
■ Heart rate	89
■ Level of alertness	Confused
■ Temperature	37.8°C

Assessment

I think he has a chest infection. I have sat him up.

Recommendation

Please could you come and see him in the next hour. I will repeat his observations in 15 minutes. Would you like me to start his antibiotics?

S

Situation

(briefly describe the current situation and give a clear, concise overview of relevant issues)
(Provide address, direct line contact number)
I am... from... (say if you are a registered professional)
I am calling about resident... (Name, DOB)
The residents TOTAL NEWS SCORE is...
Their normal NEWS/condition is...
I am calling because I am concerned that... (e.g. BP is low, pulse is XX, temp is XX, patient is more confused or drowsy)

B

Background

(briefly state the relevant history and what got you to this point)
Resident XX has the following medical conditions...
The resident does/does not have a care plan or DNACPR form / agreed care plan with a limit on treatment/hospital admission
They have had... (GP review/investigation/medication e.g. antibiotics recently)
Resident XX's condition has changed in the last XX hours
The last set of observations was...
Their normal condition is...
The resident is on the following medications...

A

Assessment

(summarise the facts and give your best assessment on what is happening)
I think the problem is XX
And I have... (e.g. given pain relief, medication, sat the patient up etc.) **OR**
I am not sure what the problem is but the resident is deteriorating **OR**
I don't know what's wrong but I am really worried

R

Recommendation

(what actions are you asking for? What do you want to happen next?)
I need you to...
Come and see the resident in the next XX hours **AND**
Is there anything I need to do in the meantime? (e.g. repeat observations, give analgesia, escalate to emergency services)
Decision
(what have you agreed)
We have agreed you will visit/call in the next XX hours, and in the meantime I will do XX
If there is no improvement within XX, I will take XX action.

D



Any
Questions



Sepsis Evaluation Form

