

From TPR Chart to MEWS



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Dr.Rangarajan Memorial Hospital

Case Study



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Case Scenario

An 84-year-old lady was admitted with c/o breathlessness.

2nd hourly vitals assessment was ordered.

2.00am: The nurse found that the patient's O₂ sat was 90% and other vitals were normal. This was recorded in the TPR chart.

4.30am: Patient became breathless and decompensated. The nurse called the duty doctor.



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Clinical Response

The duty doctor*
assesses the patient.
(*His first clinical
rotation after
graduation.)

2.45 am

He orders nasal O₂.
And goes to see
another patient who
has c/o constipation.

3.00 am

Nurse notices that the
patient saturation is
falling and respiratory
rate is rising. She calls
the same doctor again!

3.15 am



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Clinical Response

The duty doctor orders
for a venturi mask.

3.30 am

As the nurse is getting
the venturi set ready,
the patient arrests.

3.45 am

The doctor dials code
blue.

3.50 am



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Dangers of Delay

- **One-third** of potentially preventable deaths are due to poor clinical response.
- **Especially in**
 - Sepsis
 - Cardiac emergencies like STEMI
 - Stroke
- **Reducing code blue calls** improves outcomes and optimizes resources.



Temperature, Pulse and Respiration (TPR) Chart

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Shanthi Colony, IV Avenue
 Anna Nagar West,
 Chennai - 600 040.

Month & Date	22/11/2020					23/11/2020					24/11/2020					25/11/2020								
Post-OP Day																								
Ht. Wt.	156cm / 41kg					↓																		
Temperature	A.M. P.M.					A.M. P.M.					A.M. P.M.					A.M. P.M.								
C F	4	8	12	16	20	24	4	8	12	16	20	24	4	8	12	16	20	24	4	8	12	16	20	24
41.1° 106°																								
40.5° 105°																								
° 104°																								
39.4° 103°																								
38.8° 102°																								
38.3° 101°																								
37.7° 100°																								
37.2° 99°																								
36.6° 98°																								
36.1° 97°																								
35.5° 96°																								
PULSE RATE						80 84 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220 222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256 258 260 262 264 266 268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302 304 306 308 310 312 314 316 318 320 322 324 326 328 330 332 334 336 338 340 342 344 346 348 350 352 354 356 358 360 362 364 366 368 370 372 374 376 378 380 382 384 386 388 390 392 394 396 398 400 402 404 406 408 410 412 414 416 418 420 422 424 426 428 430 432 434 436 438 440 442 444 446 448 450 452 454 456 458 460 462 464 466 468 470 472 474 476 478 480 482 484 486 488 490 492 494 496 498 500 502 504 506 508 510 512 514 516 518 520 522 524 526 528 530 532 534 536 538 540 542 544 546 548 550 552 554 556 558 560 562 564 566 568 570 572 574 576 578 580 582 584 586 588 590 592 594 596 598 600 602 604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640 642 644 646 648 650 652 654 656 658 660 662 664 666 668 670 672 674 676 678 680 682 684 686 688 690 692 694 696 698 700 702 704 706 708 710 712 714 716 718 720 722 724 726 728 730 732 734 736 738 740 742 744 746 748 750 752 754 756 758 760 762 764 766 768 770 772 774 776 778 780 782 784 786 788 790 792 794 796 798 800 802 804 806 808 810 812 814 816 818 820 822 824 826 828 830 832 834 836 838 840 842 844 846 848 850 852 854 856 858 860 862 864 866 868 870 872 874 876 878 880 882 884 886 888 890 892 894 896 898 900 902 904 906 908 910 912 914 916 918 920 922 924 926 928 930 932 934 936 938 940 942 944 946 948 950 952 954 956 958 960 962 964 966 968 970 972 974 976 978 980 982 984 986 988 990 992 994 996 998 1000																		
RESPIRATION						20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110 112 114 116 118 120 122 124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220 222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256 258 260 262 264 266 268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302 304 306 308 310 312 314 316 318 320 322 324 326 328 330 332 334 336 338 340 342 344 346 348 350 352 354 356 358 360 362 364 366 368 370 372 374 376 378 380 382 384 386 388 390 392 394 396 398 400 402 404 406 408 410 412 414 416 418 420 422 424 426 428 430 432 434 436 438 440 442 444 446 448 450 452 454 456 458 460 462 464 466 468 470 472 474 476 478 480 482 484 486 488 490 492 494 496 498 500 502 504 506 508 510 512 514 516 518 520 522 524 526 528 530 532 534 536 538 540 542 544 546 548 550 552 554 556 558 560 562 564 566 568 570 572 574 576 578 580 582 584 586 588 590 592 594 596 598 600 602 604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640 642 644 646 648 650 652 654 656 658 660 662 664 666 668 670 672 674 676 678 680 682 684 686 688 690 692 694 696 698 700 702 704 706 708 710 712 714 716 718 720 722 724 726 728 730 732 734 736 738 740 742 744 746 748 750 752 754 756 758 760 762 764 766 768 770 772 774 776 778 780 782 784 786 788 790 792 794 796 798 800 802 804 806 808 810 812 814 816 818 820 822 824 826 828 830 832 834 836 838 840 842 844 846 848 850 852 854 856 858 860 862 864 866 868 870 872 874 876 878 880 882 884 886 888 890 892 894 896 898 900 902 904 906 908 910 912 914 916 918 920 922 924 926 928 930 932 934 936 938 940 942 944 946 948 950 952 954 956 958 960 962 964 966 968 970 972 974 976 978 980 982 984 986 988 990 992 994 996 998 1000																		
BLOOD PRESSURE																								
URINE																								
BOWELS																								
TOTAL INTAKE	400 ml																							
TOTAL OUTPUT	350 ml																							
DIET	Semi-solid diet					Solid diet					Normal diet					Normal diet								
BATH																								

SMF - QR - NUR - 001

CLINICAL RECORD

A TPR chart helps in visually presenting the temperature, and values of pulse, BP and respiratory rate of a patient, and in addition other parameters.



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Drawbacks of Traditional TPR chart

- “Observation” charts - Nurses are trained to observe, but not act.
- Nurses job is limited to documenting.
- Variable: From place to place.
- Detection of patient deterioration is not easy.
- No mechanism for calling the competent doctor.





Name :		
Age :		Hospital No :
Sex :		IP No :

MEWS - MODIFIED EARLY WARNING SCORE

[illegible]

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MEWS Chart

Respiratory rate

Respirations Breaths/min	>25
	21-24
	12-20
	9-11
	≤8
SpO2 Scale 1 Oxygen saturation (%)	≥96
	94-95
	92-93
	≤91
SpO2 Scal2 2 + Oxygen saturation(%) Use Scale 2 if target range is 88-92%, eg in hypercapnic respiratory failure † only use Scale 2 under the direction of a qualified clinician	≥97 on O2
	95-96
	93-94
	≥93 on air
	88-92
	86-87
	84-85
	≤83%
Air or Oxygen Device	A = Air
	O2 L/Min
BIPAP=B, CPAP=C	Device

Oxygen
saturation

Supplemental
oxygen

Blood pressure

Blood Pressure mm/Hg (Score use systolic BP only)	>220
	201 - 219
	181 - 200
	111 - 180
	101 - 110
	91 - 100
	≤ 90
Diastolic BP (mm Hg)	
Pulse Beats/Min	≥131
	111 - 130
	91 - 110
	51 - 90
	41 - 50
	≤ 40
Consciousness	Alert (C/V/P/U)
Temperature F	≥102
	100.5-102.5
	97 - 100.4
	95 - 96.0
	≤95

Pulse rate

Level of
consciousness

Temperature



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MEWS Chart



Can be used for continuously assessing the patients.



Can be used instead of the temperature, pulse, respiration rate (TPR) observation chart.



Provides standardised scale for observation.



Was initially implemented in the UK as the National Early Warning Score (NEWS) and now in other countries.



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Points to Remember

- MEWS can be applied only to adult patients.
- To assess pregnant women: Use modified early warning obstetrics score (MEOWS).
- To assess children: Use paediatric early warning score (PEWS).



Strengths and Limitations of MEWS Chart

Strengths

Accurately predicts worsening of patient's condition.

Facilitates easy communication.

Can be easily automated.

Can be applied across specialties.

Limitations

Requires nurse's active involvement.

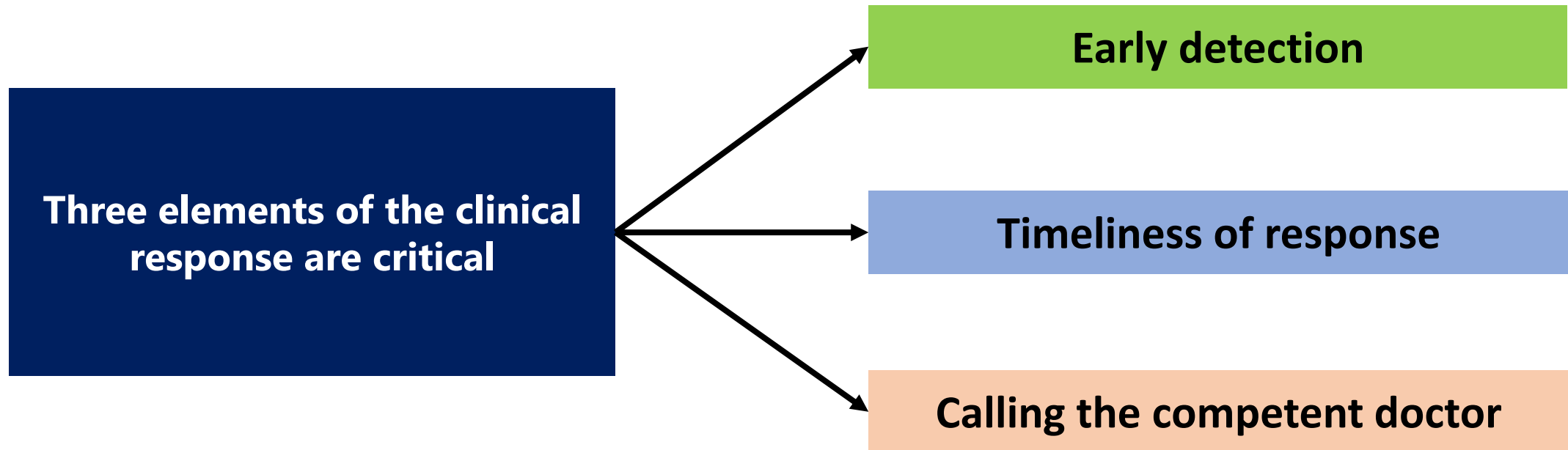
Clinical judgement can be overlooked.



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Benefits of Using MEWS Chart

MEWS helps nurses and doctors in their clinical response to a patient situation. It is an excellent tool to determine the following:



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MEWS 4-Step Process

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Age : _____ Hospital No : _____
Sex : _____ IP No : _____

MEWS - MODIFIED EARLY WARNING SCORE

MEWS KEYS	0	1	2	3
DATE				
TIME				
Respirations Breaths/min	≥25	21-24	12-20	9-11
SpO2 Scale 1 Oxygen saturation (%)	≤8	9-96	94-95	92-93
SpO2 Scal2 2 + Oxygen saturation (%) Use Scale 2 if target rings is 88-92%, eg in hypoxic respiratory failure 1 only one Scale 2 unless the direction of a qualified clinician	≥97 on O2	95-96	93-94	≥93 on air
Air or Oxygen Device	A = Air	O2 L/Min	Device	BIPAP=B, CPAP=C
Blood Pressure mm/Hg (Score use systolic BP only)	≥220	201 - 219	181 - 200	111 - 180
Diastolic BP (mm Hg)	101 - 110	91 - 100	≤ 90	
Pulse Beats/Min	≥131	111 - 130	91 - 110	51 - 90
Consciousness	Alert (C/V/P/U)	≥102	100.5-102.5	97 - 100.4
Temperature F	95 - 96.0	≤95		
MEWS TOTAL				
Monitoring frequency (Hourly)				
Escalation of care Y/N				
Initials				

SMF - IP - MEWS - 001 DOR - 1 - 1 - 2020

Document vital parameters

Assign and calculate score

Identify clinical risk

Initiate a response

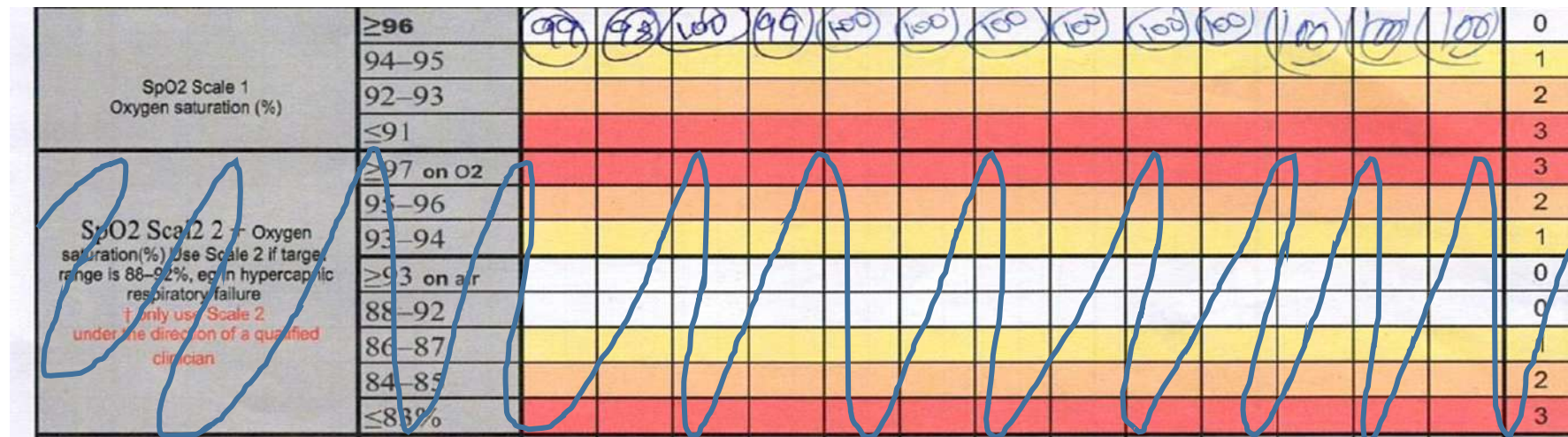


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Oxygen Saturation (SpO₂)

The two SpO₂ scales are described below:

- **Scale 1** is the usual scale for patients for whom a normal oxygen saturation is expected.
- **Scale 2** is the scale to be used for patients with hypercapnic respiratory failure and a recommended oxygen saturation range of 88-92%.



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Points to Remember

Dos

- You should use the SpO₂ scale as instructed by the doctor.
- The doctor should cross out the scale that should not be used.

Don't

- You should never use both the SpO₂ scales for a single patient.



Supplemental Oxygen

You should document the use of supplemental oxygen and device on the MEWS chart.

Air or Oxygen Device BIPAP=B, CPAP=C	A = Air																0
	O2 L/Min	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	4lit	2
	Device	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0



Blood Pressure

You should write values of both systolic and diastolic BP. But, you have to consider only systolic BP for calculating MEWS score.

Blood Pressure mm/Hg (Score use systolic BP only)	≥220														3
	201 - 219														2
	181 - 200														1
	111 - 180	171	168	146	152	160	167	165	170	160	162	145	140	145	0
	101 - 110	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	1
	91 - 100	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	2
	≤ 90	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	3
Diastolic BP (mm Hg)		77	78	72	76	78	79	70	75	70	72	65	60	60	0



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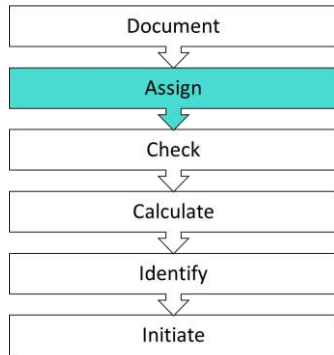
Level of Consciousness

You should write the level of consciousness of the patient. It can be assessed using the ACVPU scale.

Consciousness	Alert															0
	(C/V/P/U)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	3



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Assign a Score

Respirations Breaths/min	≥25										3
	21-24										2
	12-20	20									0
	9-11										1
	≤8										3

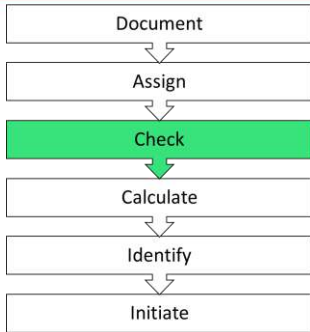
After documenting the values, you should assign a score to each vital parameter.

Example

If the patient's **respiratory rate** is **20** breaths/min, then its **score** is **0**.



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Check for a Red Score

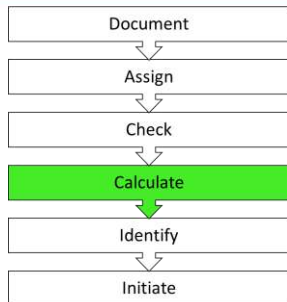
After assigning the score, you should check if any vital parameter has a score of three (Red score).

Note: The score is colour-coded based on severity and deviation from the normal range.

Respirations Breaths/min	≥25					32	32				3	Red score
	21-24			22	22						2	Orange score
	12-20	20	20								0	White score
	9-11										1	Yellow score
	≤8										3	



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Calculate the Total Score

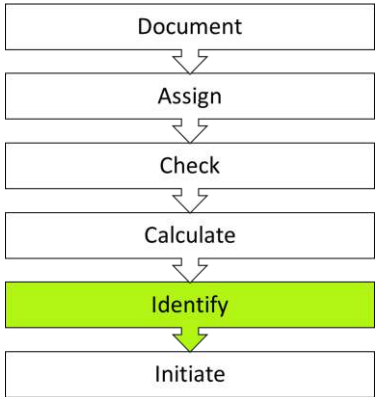
MEWS - MODIFIED EARLY WARNING SCORE												
MEWS KEYS		0	1	2	3							
Respirations Breaths/min	DATE	6/5			11/5			11/5				
	TIME	5:10pm	11:10am	2:00pm	1:00pm	9:00am	12:10pm	3:00pm	6:00pm	10:00pm	11:00pm	9:00am
	≥25											3
	21-24	22	24									2
	12-20			18	20	20	18	20	20	18	20	0
SpO2 Scale 1 Oxygen saturation (%)	9-11											1
	≤8											3
	≥96		96	98	98	96	98	98	98	96	98	0
	94-95	95										1
	92-93											2
SpO2 Scal2 2 + Oxygen saturation(%) Use Scale 2 if target range is 88-92%, eg in hypercapnic respiratory failure † only use Scale 2 under the direction of a qualified clinician	≤91											3
	≥97 on O2											3
	95-96											2
	93-94											1
	≥93 on air											0
Air or Oxygen Device	88-92											0
	86-87											1
	84-85											2
	≤83%											3
	A = Air	A	A	A	A	A	A	A	A	A	A	0
BIPAP=B, CPAP=C	O2 L/Min											2
	Device											0
	≥220											3
	201 - 219											2
	181 - 200											1
Blood Pressure mm/Hg (Score use systolic BP only)	111 - 180	173	160	158	140	174	176	164	164	123	158	0
	101 - 110	140						102				1
	91 - 100											2
	≤ 90											3
	Diastolic BP (mm Hg)	102	100	99	82	105	98		92	78	70	0

Pulse Beats/Min	≥131												3
	111 - 130												2
	91 - 110	102	100		94	98	106	108		90	90	84	1
	51 - 90			90	84								0
	41 - 50												1
Consciousness (C/V/P/U)	≤ 40												3
	Alert	A	A	A	A	A	A	A	A	A	A	A	0
	(C/V/P/U)												3
	≥102												2
	100.5-102.5												1
Temperature F	97 - 100.4	100.4	100.0	99.9	99.8	99.4	99.5	99.6	99.6	99.6	99.6	99.6	0
	95 - 96.0												1
	≤95												3
	MEWS TOTAL	4	1	2	0	1	1	3	1	0	2	0	4

Total score = 2+1+0+0+1+0+0 =4



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Identify the Clinical Risk

Total score	Clinical risk
0	No risk
1-4	Low risk
5-6 or red score of three in any vital parameter	Moderate risk
7 or more	High risk



Identify the Clinical Risk: Example

Score	Clinical risk
Total score 0	No risk
Total score 1-4	Low risk
Total score 5-6 or red score of three in any vital parameter	Moderate risk
Total score 7 or more	High risk

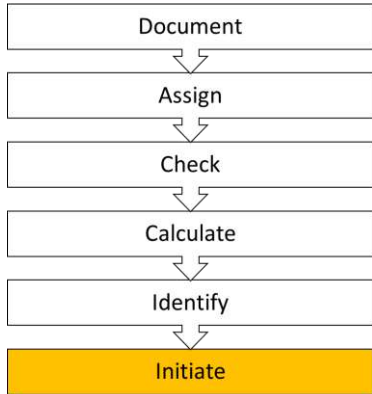
Blood Pressure mm/Hg (Score use systolic BP only)	>220				
	201 - 219				
	181 - 200				
	111 - 180	171	168	146	152
	101 - 110	↑	↑	↑	↑
	91 - 100	↓	↓	↓	↓
Diastolic BP (mm Hg)	≤ 90				
		77	78	72	76
Pulse Beats/Min	≥131				
	111 - 130				
	91 - 110				
	51 - 90	72	80	76	70
	41 - 50				
	≤ 40				
Consciousness (C/V/P/U)	Alert				
		P	P	P	P
Temperature F	≥102.5				
	97 - 100.4	98.2	97.1	97.4	97.8
	95 - 96.0				
	≤ 95				
MI		5	5	4	5

Red score

Total score



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Initiate a Response

Depending on the clinical risk, you should take the following actions:



Urgency of treatment



Seniority of staff to attend patient



Frequency of monitoring



Clinical area



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Initiate a Response

Score	Clinical risk	Urgency of response	Seniority of staff to attend patient	Frequency of monitoring	Clinical area
Total score 0	No risk	No action required	None	4-8 th hourly	Ward
Total score 1- 4	Low risk	Routine	Inform duty PG	2-4 th hourly	Ward
Total score 5-6 or red score (3) in any vital parameter	Moderate risk	Urgent	Inform duty PG/senor resident and consultant-in charge	1 hourly	Ward
Total score 7 or more	High risk	Immediate	Consultant, intensivist	Continuous	ICU



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SMF Experience



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Name :
Age :
Sex :
Hospital No :
IP No :

MEWS - MODIFIED EARLY WARNING SCORE

MEWS KEYS		0	1	2	3
DATE					
TIME					
Respirations Breaths/min	≥25				3
	21-24				2
	12-20				0
	9-11				1
	≤8				3
SpO2 Scale 1 Oxygen saturation (%)	≥96				0
	94-95				1
	92-93				2
	≤91				3
SpO2 Scal2 2 + Oxygen saturation(%) Use Scale 2 if target range is 88-92%, eg in hypoxic respiratory failure Low range Scale 2 under the direction of a qualified clinician	≥97 on O2				3
	95-96				2
	93-94				1
	≥93 on air				0
	88-92				0
	86-87				1
	84-85				2
	≤83%				3
Air or Oxygen Device BIPAP-B, CPAP-C	A = Air				0
	O2 L/Min				2
	Device				0
Blood Pressure mm/Hg (Score use systolic BP only)	≥220				3
	201 - 219				2
	181 - 200				1
	111 - 180				0
	101 - 110				1
	91 - 100				2
Diastolic BP (mm Hg)	≤ 90				3
					0
Pulse Beats/Min	≥131				3
	111 - 130				2
	91 - 110				1
	51 - 90				0
	41 - 50				1
Consiousness	≤ 40				3
	Alert (C/V/P/U)				0
Temperature F	≥102				3
	100.5-102.5				2
	97 - 100.4				1
	95 - 96.0				0
MEWS TOTAL	≤95				3
Monitoring frequency (Hourly)					
Escalation of care Y/N					
Initials					

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DOR - 1 - 1 - 2020

Introduction

Based on the national early warning score (NEWS) of National Health Service (NHS) United Kingdom (UK), we modified and implemented the MEWS chart at SMF.



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Step 1: Buy-in from Management

Quality team

- Presented the concept (to implement MEWS chart) to the hospital management, nursing leadership and senior nurses.
- Got their support and approval.



Step 2: Adaptation of NEWS Chart

Who was in-charge?

- Quality team
- Nursing leadership

What was modified?

Change in use of terminology/units.
(For example: Centigrade to Fahrenheit).

[illegible]

Step 2: Adaptation of NEWS Chart

What were the new focus areas?

- Benefit to patients.
- Nursing actions.

Points to Remember

The modified MEWS chart focussed on the following nursing actions:

- Early response based on score.
- Change in frequency of monitoring.
- Calling senior (capable) doctor.
- Informing ICU.



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Step 3: Doctor's Response

We presented the modified chart to the consultants, middle grade and junior doctors.

How was the response?

Majority of the staff accepted the usefulness of the chart. But, there were several reservations and a lot of discussion as well.

What was the main hurdle?

Change from a well-established practice.



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Step 4: Pilot Implementation

The quality team members were the champions for implementing the pilot.

Place

In a single ward.

Duration

Three months.

Training

Nurses in that ward were trained to use the MEWS chart.



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Step 4: Pilot Implementation

Challenges faced

- Modified look and functionality.
- Empowerment of nurses to directly call the consultants if the score was high.
- Managing the consultant's frustration that was mostly directed towards the nurses.

Note: There were several genuine concerns as well. We kept the communication open and encouraged feedback.



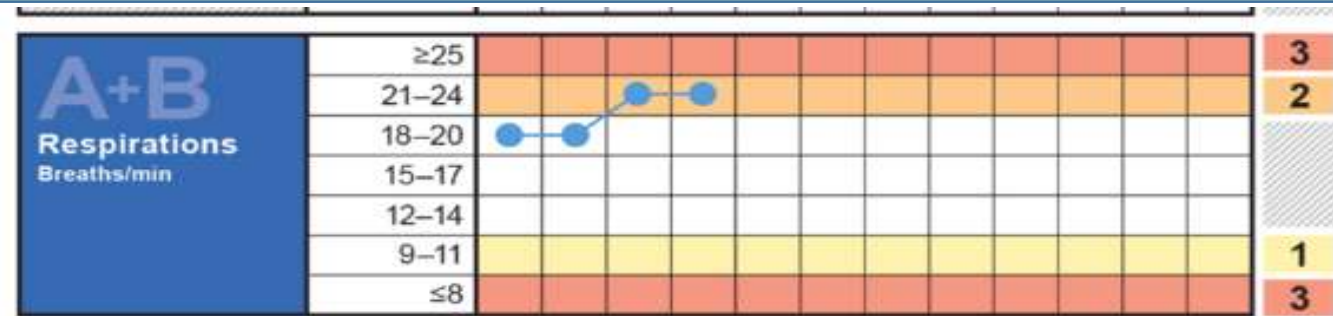
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Step 5: Takeaways of The Pilot

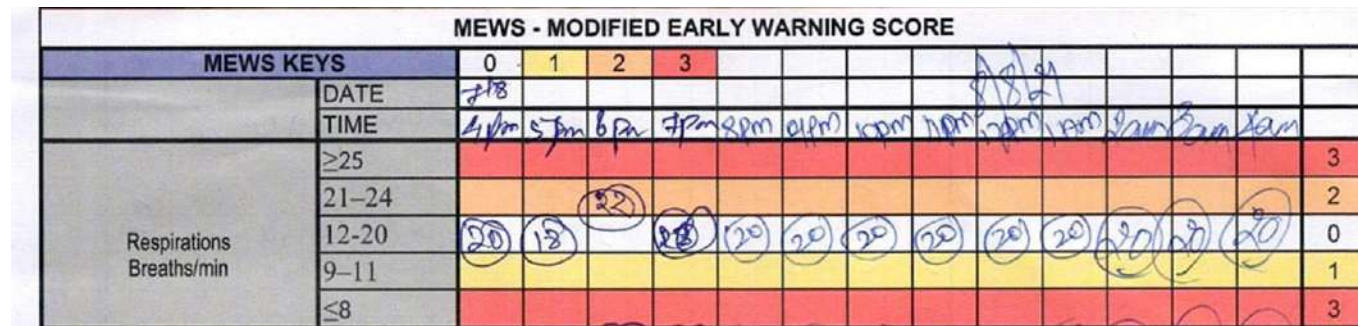
Chart modification

Introduction of values instead of the dots. This made it easy for the doctors to quickly scan the values as well as the trend of the vital parameters easily.

Old



New



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Step 5: Takeaways of The Pilot

Chart modification

- Using actual systolic and diastolic values on the chart.

Old

[illegible]

New

[illegible]

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Step 6: Expansion to the Whole Hospital

Except for the labour room and paediatric ward, the chart is now in use for the whole hospital.



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Challenges in Using MEWS Chart

Human

- Doctor's buy-in
- Nurses empowerment
- New staff

Tool

- Complicated interface
- Use of two charts for SpO₂
- Use of systolic value for BP
- Unconscious patients



MEWS KEYS		0	1	2	3
Respirations Breaths/min	DATE	21/8			21/8
	TIME	2:30	6:30	9:30	12:30
	≥25				
	21-24				
	12-20	22	20	18	18
SpO2 Scale 1 Oxygen saturation (%)	9-11				
	≤8				
	≥96	98	98	96	90
	94-95				
SpO2 Scal2 2 + Oxygen saturation(%) Use Scale 2 if target range is 88-92%, eg in hypercapnic respiratory failure 1 only use Scale 2, under the direction of a qualified clinician	92-93				
	≤91				
	≥97 on O2				
	95-96				
	93-94				
	≥93 on air				
	88-92				
	86-87				
Air or Oxygen Device	A = Air	A	A	A	A
	O2 L/Min				
BIPAP=B, CPAP=C	Device				
Blood Pressure mm/Hg (Score use systolic BP only)	≥220				
	201 - 219				
	181 - 200				
	111 - 180	160	130	134	113
	101 - 110				
Diastolic BP (mm Hg)	91 - 100				
	≤ 90	80	80	80	80
Pulse Beats/Min	≥131				
	111 - 130				
	91 - 110				
	51 - 90	86	78	84	90
	41 - 50				
Consciousness	Alert	A	A	A	A
	(C/V/P/U)				
Temperature F	≥102				
	100.5-102.5				
	97 - 100.4	98.5	98.1	100.3	101.6
	95 - 96.0	96.2			
	≤95				
MEWS TOTAL		1	0	0	0
Monitoring frequency (Hourly)		0:30	0:30	0:30	0:30
Escalation of care Y/N		N	N	N	N

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Date	22/11/2020	23/11/2020	24/11/2020	25/11/2020
OP Day				
Wt.	156cm / 71kg			
Temperature	A.M. P.M.	A.M. P.M.	A.M. P.M.	A.M. P.M.
F	4 8 12 16 20 24	4 8 12 16 20 24	4 8 12 16 20 24	4 8 12 16 20 24
106°				
105°				
104°				
103°				
102°				
101°				
100°				
99°				
98.4°				
98°				
97°				
96°				
HE RATE				
IRATION				
OD SSURE				
IE				
ELS				
L INTAKE				
OUTPUT				
	400ml			
	350ml			
	Semicond diet	abamp diet	Normal diet	Normal diet

QR - NUR - 001

CLINICAL RECORD



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Usefulness of MEWS Chart in Our Experience

MEWS KEYS		MEWS - MODIFIED EARLY W											
		0	1	2	3								
Respirations Breaths/min	DATE	11/8											
	TIME	02:00 06:00 09:00 12:00 03:00 06:00 09:00 12:00 03:00 06:00 09:00 12:00											
	≥25												
	21-24												
	12-20												
SpO2 Scale 1 Oxygen saturation (%)	9-11												
	≤8												
	≥96												
	94-95												
	92-93												
SpO2 Scal2 2 + Oxygen saturation(%) Use Scale 2 if target range is 88-92%, eg in hypercapnic respiratory failure 1 only use Scale 3 under the direction of a qualified clinician	≤91												
	≥97 on O2												
	95-96												
	93-94												
	≥93 on air												
Air or Oxygen Device	88-92												
	86-87												
	84-85												
	≤83%												
	A = Air												
BIPAP=B, CPAP=C	O2 L/Min												
	Device												
	≥220												
	201 - 219												
	181 - 200												
Blood Pressure mm/Hg (Score use systolic BP only)	111 - 180												
	101 - 110												
	91 - 100												
	≤ 90												
	Diastolic BP (mm Hg)												
Pulse Beats/Min	≥131												
	111 - 130												
	91 - 110												
	51 - 90												
	41 - 50												
Consciousness	≤ 40												
	Alert (C/V/P/U)												
	≥102												
	100.5-102.5												
	97 - 100.4												
Temperature F	95 - 96.0												
	≤95												
	MEWS TOTAL												
	Monitoring frequency (Hourly)												
	Escalation of care Y/N												

- Early response based on score.
- Change in frequency of monitoring.
- Calling senior (capable) doctor.
- Informing ICU.
- Reducing code blue calls?



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Conclusion

The efficacy of the MEWS chart is well established. It results in empowering the nurses to recognise the deterioration of clinical signs early. This reduces the number of code blue calls and in-hospital CPR events. With EMR, the colour coding, calculation can be automated and alerts or alarms integrated into the system.



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Thank You!



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