



KEEP
CALM
AND
GET BACK
TO BASICS

OBSERVATIONS

Karen Sumner

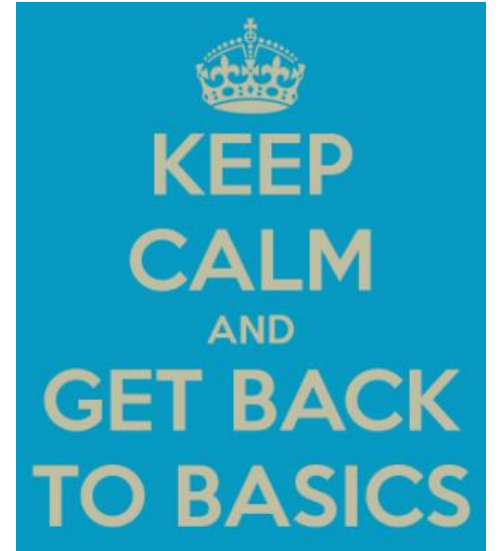
Advanced Nurse Practitioner CCOT

Clinical Teaching Fellow

University of Southampton

Content

- The importance of observation taking
- A & B: Respiration, Pulse oximetry
- C: pulse, BP ranges & MAP, Pulse pressure, CRT, shock
- D: Temperature, Pain Scores



Who does patient observations?

Traditional methods



Automated methods



MATERNAL EARLY WARNING SCORE

Obstetric Early Warning Score Chart - Maternity Use Only

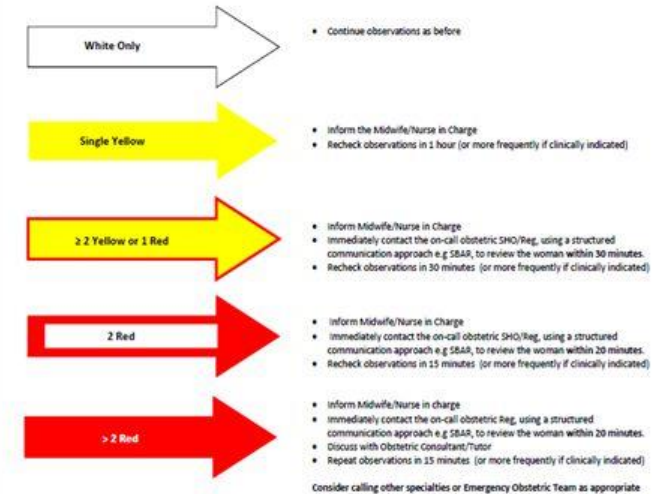
Address (if applicable) Name: _____ Consultant: _____ Hosp No: _____		Month: _____ Year: _____ Ward: _____	Booking BP: _____ mmHg BMI: _____ kg/m ²	
Date: _____ Frequency of Obs: _____ Time 24hr clock: _____				Please tick below A/N <input type="checkbox"/> F/N <input type="checkbox"/>
Resps	130 11-120 10-30 10-30 10-30			130 11-120 10-30 10-30 10-30
% O ₂ Saturation	95-100% 90-95% 85-90%			95-100% 90-95% 85-90%
Estimated Cx/MA	100% 90% 80%			100% 90% 80%
Temp	39 38 37 36 35			39 38 37 36 35
Heart Rate	130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300			130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Systolic Blood Pressure	130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300			130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Diastolic Blood Pressure	80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250			80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250
SpO ₂ Frequency	100% 90% 80%			100% 90% 80%
A/N PC Based	100% 90% 80%			100% 90% 80%
A/N Uterine Tone	100% 90% 80%			100% 90% 80%
Lochia	100% 90% 80%			100% 90% 80%
P/V Observation	100% 90% 80%			100% 90% 80%
Wound -	100% 90% 80%			100% 90% 80%
Neuro Response	100% 90% 80%			100% 90% 80%
Pain Score	100% 90% 80%			100% 90% 80%
Nausea	100% 90% 80%			100% 90% 80%
Looks Unwell	100% 90% 80%			100% 90% 80%
Total Yellow Scores				
Total Red Scores				
Signature (if applicable)				

Adapted from the Belfast Trust OEW Chart September 2013

Obstetric Early Warning Score Chart - Maternity Use Only

ACTION PROTOCOL

The Early Warning Scoring System and Action Protocol are designed to help identify deterioration in the woman and ensure appropriate early intervention. All action taken must be fully documented in case notes. Staff should use their clinical judgement, and seek advice if they have concerns about any woman, regardless of the score.
If an OEW chart is being commenced in a freestanding midwife led unit the parent obstetric unit needs to be informed and transfer protocols commenced



Interventions / Investigations

Airway – Breathing – Circulation

If appropriate, sit upright and administer oxygen

Consider need for IV access, review observation chart, fluid balance, hourly urine output, drug prescription chart and level of monitoring

Consider need for 12 lead ECG, Chest X-ray, arterial blood gas, CBC, U&E, Coag screen

Observations explanation

Pain Score

0 = none 0 = no nausea

1 = a little 1 = mild nausea

2 = moderate 2 = severe nausea

3 = severe 3 = vomiting

P.V Loss

A standard maternity pad:

Partially saturated = 30mls

Saturated to capacity = 120mls

A single absorbent incontinence pad (75x47cm):

Saturated will hold 250mls of blood

Surgical Swabs:

Saturated small surgical swabs (10cmx10cm) = 60mls

Saturated large surgical swabs (40cmx40cm) = 120mls

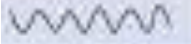
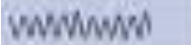
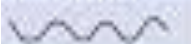

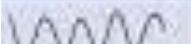

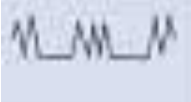

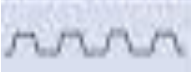
A standard kidney dish:

Wetted 200mls of blood

In Major cases consider weighing swabs

Ref: Bax T, Regan J, Palmer-Davies S. (2008) Improving the accuracy of estimated blood loss at obstetric haemorrhage using clinical instructions. British Journal of Obstetrics and Gynaecology

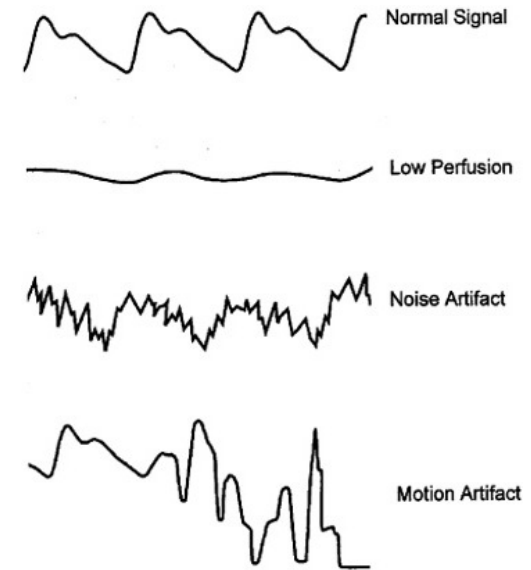
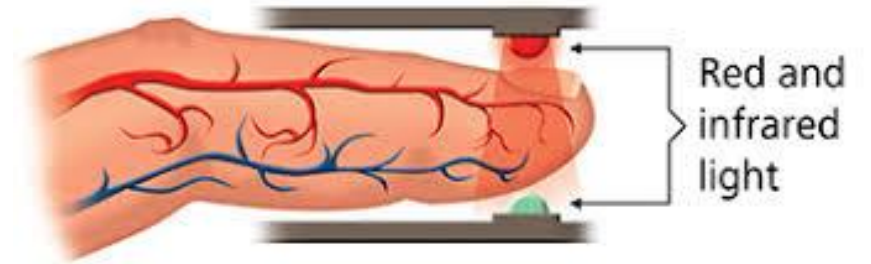
AIRWAY AND BREATHING

Table 1. Breathing patterns		
Pattern	Condition	Description
	Eupnoea	Normal breathing rate and pattern
	Tachypnoea	Increased respiratory rate
	Bradypnoea	Decreased respiratory rate
	Apnoea	Absence of breathing
	Hyperpnoea	Increased depth and rate of breathing
	Cheyne-Stokes	Gradual increases and decreases in respirations with periods of apnoea
	Biot's	Abnormal breathing pattern with groups/clusters of rapid respiration of equal depth and regular apnoea periods
	Kussmaul's	Tachypnoea and hyperpnoea
	Apneustic	Prolonged inspiratory phase with a prolonged expiratory phase

- Observation will gain much more information than simply a rate of breathing
- Sensitive sign to patient deterioration
- Measure over a full minute

PULSE OXIMETRY

- Probe emits 2 wavelengths of light (red and infrared)
- Sensor detects light absorbed at each frequency
- Detects pulsatile flow and cancels out absorption during non-pulsatile flow
- Algorithm relates absorbance change (ratio) to saturations



PULSE OXIMETRY – SOME LIMITATIONS

Inadequate Signal	Anaemia
	Dark Skin
	Bright external Light
	Intravenous dye
	Nail Polish
	Low perfusion
Low Reading	Venous pulsations such as:
	Tricuspid Regurgitation
	Severe right heart failure
	Tourniquet or BP cuff above probe
Unreliable reading	Methaemoglobin
	Carboxyhaemoglobin
	SPO2 < 90%

PULSE OXIMETRY



Patient Safety Alert

Risk of harm from inappropriate placement of pulse oximeter probes

18 December 2018

Alert reference number: NHS/PSA/W/2018/009

Warning Alert

Measurement of oxygen saturation, using a pulse oximeter probe, is routinely undertaken as part of patients' vital signs during diagnosis and ongoing monitoring. Oxygen saturation readings are a key component of the National Early Warning Score (NEWS2).¹

Oximeter probes can be single or multiple use and are designed to attach to specific parts of the body. Adult oximeter probes can be attached to either a finger or an ear, but are not interchangeable between these sites, whilst probes for babies and children need to be selected according to the patient's weight.

If an oximeter probe intended for the finger is attached to the ear (or vice versa), or a probe intended for an adult is attached to a baby or a child (or vice versa), it can produce a reading up to 50% lower or 30% higher than the real value.^{2,3,4} The clinical implication of an inaccurately high reading, especially as part of NEWS2, is that staff may be falsely reassured about a patient's condition, when in reality the patient is deteriorating, or may make an inappropriate intervention when in fact a patient is stable or improving.

Actions

Who: All organisations providing NHS funded-care where oxygen saturation probes are used as part of routine or emergency monitoring of patients

When: To commence immediately and actions completed by 18 June 2019

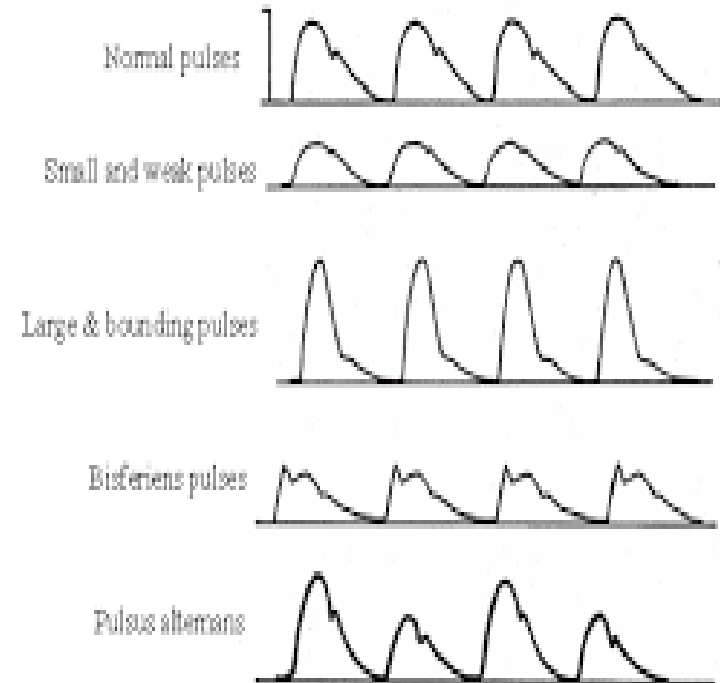


1 Identify a clinical leader to bring together people with responsibilities for medical device training and education, clinical skills assessment, NEWS2 implementation and procurement of pulse oximeters.

- Finger and ear pulse oximeter probes are not interchangeable between sites!

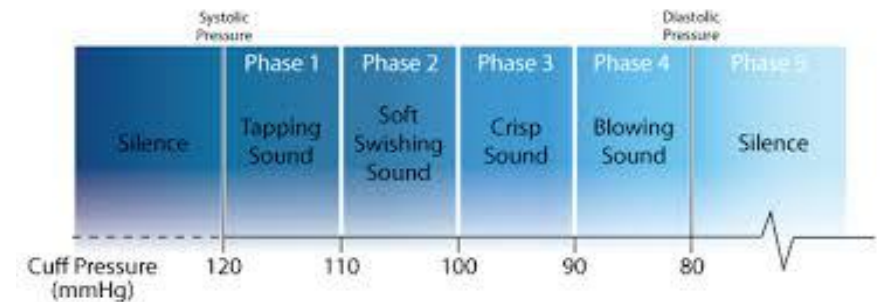
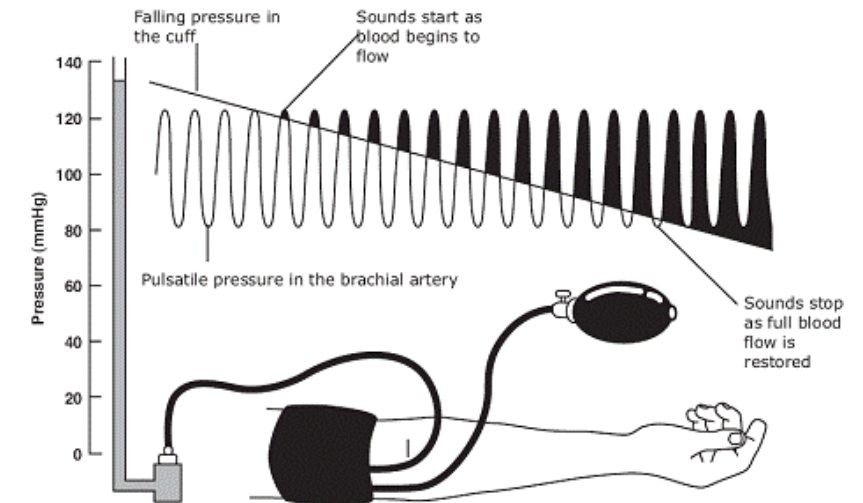
CIRCULATION – PULSE CHARACTER

- 3 important characteristics, rate, rhythm and volume
- Record the number of beats in a full minute
- Feel the temperature and observe the colour of the peripheries at the same time
- Do not use automated blood pressure machine if pulse is irregular



BLOOD PRESSURE

- Sitting relaxed position
- Arm well supported with cuff at heart level
- Appropriate cuff size (bladder 80% of arm circumference)
- Slow deflation of bladder
- Note start of Korotkoff 1 and end of Korotkoff 5



BLOOD PRESSURE

- Mean arterial pressure (MAP) is the average blood pressure in an individual during a single cardiac cycle
- MAP Significantly represents the perfusion pressure to the body's organs
- Estimation: $MAP = DP + 1/3 PP$ or $\frac{SBP + (2 \times DBP)}{3}$

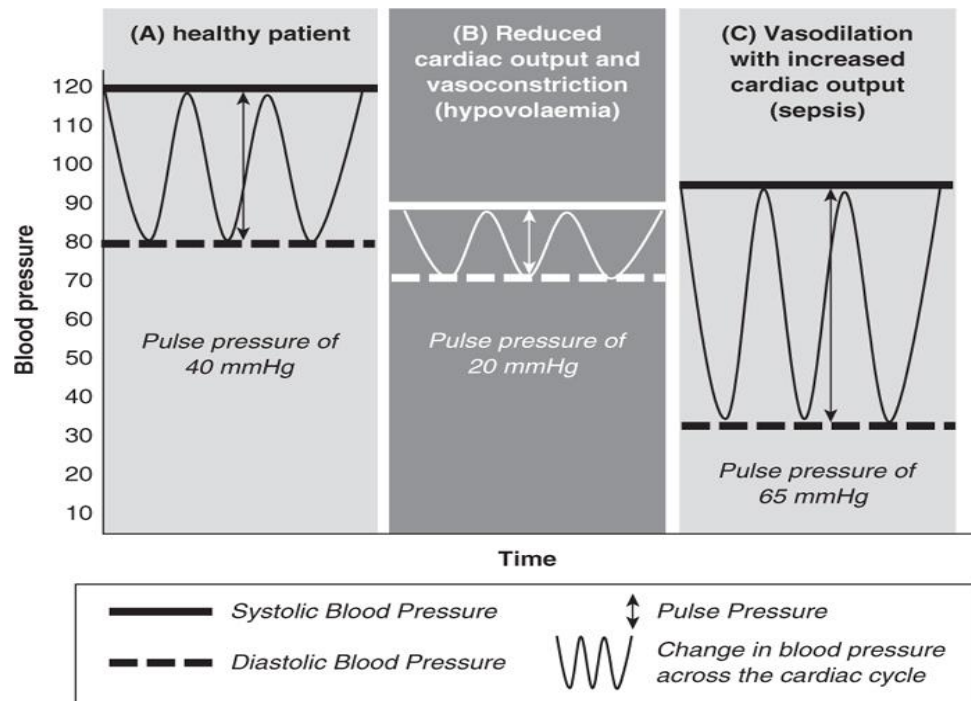


PULSE PRESSURE

Systolic – Diastolic = Pulse Pressure

For an NIBP of 70/45, $70 - 45 = 25$ mm Hg

Source: Adv Neonatal Care © 2005 W. B. Saunders



- This normally widens during middle trimester
- Commonest abnormality seen in the unwell parturient is a low pulse pressure due to compensation for hypovolaemia, shock, LVF
- May see a higher pulse pressure due to sepsis

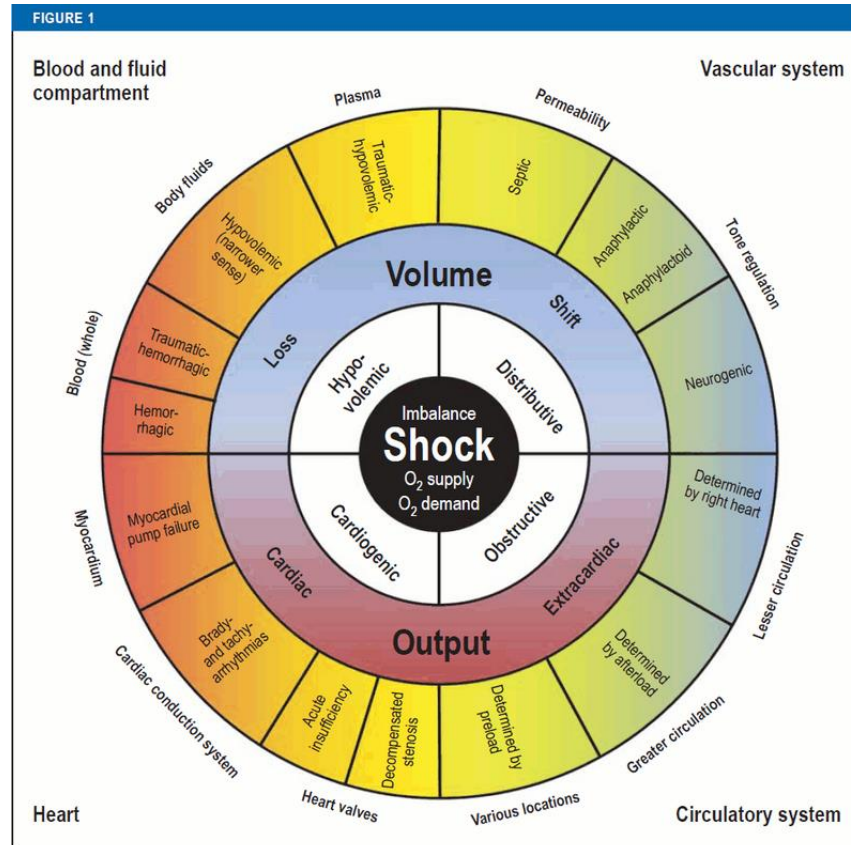
CAPILLARY REFILL



Assessing capillary refill time peripherally (left) and centrally (right)



SHOCK = low blood perfusion to tissues resulting in inadequate tissue function



Synoptic view of the four types of shock (inner, white field) with the organ systems primarily associated with them (outer corners), sites and mechanisms of manifestation (outside the circle), and pathogenetic and pathophysiologic features (outer and middle sectors of the circle). To maintain clarity, mixed types of shock are not depicted.



SIGNS & SYMPTOMS OF SHOCK

	RR	HR	BP	SKIN	TEMP	URINE	OTHER S&S
ANAPHYLACTIC Severe allergic reaction.	↑↓	↑	↓	Flushed Swollen Itchy	NO CHANGE	↓	Urticaria, Pruritus, Decreased LOC, Bronchoconstriction
CARDIOGENIC Failing pumping ability of the heart.	↑	↑	↓	Pale Cool Clammy	NO CHANGE	↓	Chest Discomfort, Syncope, JVD, Pulmonary Edema, Orthopnea
HYPOVOLEMIC Reduced circulating blood volume.	↑	↑	↓	Pale Cool Clammy	NO CHANGE	↓	Anxiety, Thirst, Syncope, Weakness, Confusion, Dizziness, Syncope, Weak Pulse
OBSTRUCTIVE Physical obstruction of great vessels or the heart.	↑	↑	↓	Extremities: Pale Cool	↓	↓	Muffled Heart Sounds, JVD, Decreased LOC, Signs of Poor Perfusion
NEUROGENIC Severe central nervous system damage.	↑	↓	↓	Warm Flushed Dry	↑ OR ↓	No Bladder Control	Paralysis Distal to Injury Site, Priapism
SEPTIC Extreme immune system response to an infection.	↑	↑	↓	Flushed then Pale & Cool	≥38°C OR <36°C	↑	Bounding Pulse, Altered LOC

More FREE resources at eventmedicinegroup.org

TEMPERATURE

- Human body has different temperature readings in different sites so only an approximation of true core temp
- No agreement on best device to measure temp in clinical setting
- The same site should be used and trends monitored
- Temp increased in infective conditions, inflammation, immunological disease, some drugs, metabolic disorders
- Temp decreased in sepsis, ethanol or drug ingestion, hypothyroidism, hypoglycaemia or adrenal failure



PAIN

- Multiple pain scores exist: numerical, faces, colours, descriptors

- Pain is:

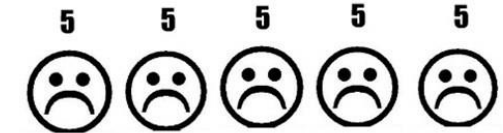
“ Whatever the experiencing person says it is existing whenever the experiencing person says it does”

McCaffery 1968

0-10 SCALE OF PAIN SEVERITY

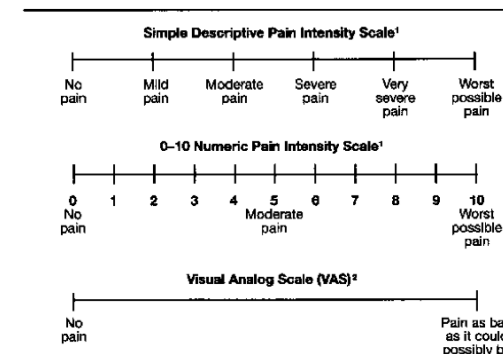
Severity	Description of Experience
10 Unable to Move	I am in bed and can't move due to my pain. I need someone to take me to the emergency room to get help for my pain.
9 Severe	My pain is all that I can think about. I can barely talk or move because of the pain.
8 Intense	My pain is so severe that it is hard to think of anything else. Talking and listening are difficult.
7 Unmanageable	I am in pain all the time, it keeps me from doing most activities.
6 Distressing	I think about my pain all of the time. I give up many activities because of my pain.
5 Distracting	I think about my pain most of the time. I cannot do some of the activities I need to do each day because of the pain.
4 Moderate	I am constantly aware of my pain but I can continue most activities.
3 Uncomfortable	My pain bothers me but I can ignore it most of the time.
2 Mild	I have a low level of pain. I am aware of it only when I pay attention to it.
1 Minimal	My pain is hardly noticeable.
0 No Pain	I have no pain.

Giving Birth Pain Scale



Which number best describes your pain?

GraphJam.com



ANY QUESTIONS?

Thankyou for listening!

