

‘Today’s research - Tomorrow’s practice’

Breathing Dysfunction

Breathing Pattern Disorders

Tania Clifton-Smith



What is a normal breathing pattern ?

Adult at rest

- Nose: humidifies , warms , filters
- Diaphragm: 80-90% of work at rest
- 10-14 breaths per minute-bpm

Baby

- A/A
- Rate-30-50 bpm

Young child

- 25 bpm

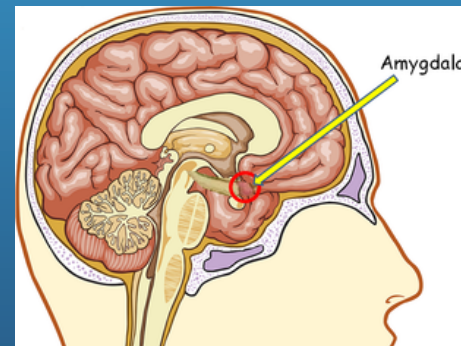
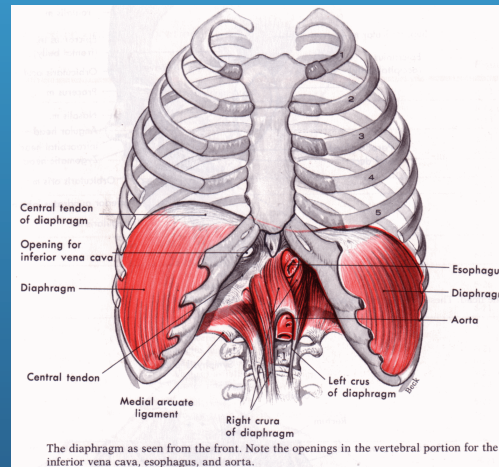
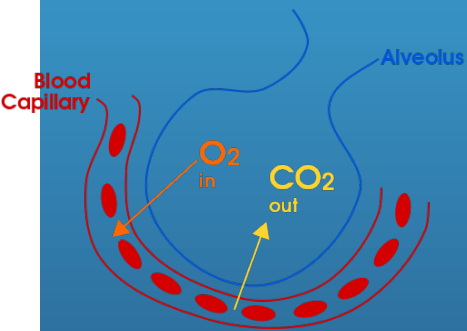
Young adult

- 18 bpm

West, John B. (John Burnard)
Respiratory physiology : the essentials

Why is a normal pattern important?

- Breathing is subject to major disruption or interference from **thinking, feeling and experience**, and also as a result of **biomechanical and biochemical factors** - it too can work in reverse & effect all these functions.



Clifton-Smith T, Rowley J. Breathing pattern disorders and physiotherapy: inspiration for our profession. *Phys Ther Rev.* 2011; 16: 75–86

What is Breathing Dysfunction?

Dysfunctional Breathing (DB) is defined as chronic or recurrent changes in breathing pattern that cannot be attributed to a specific medical diagnosis, causing respiratory and non-respiratory complaints Lum L 1987 Hyperventilation syndromes in medicine and psychiatry: a review. J. R Soc Med. 80:229-231.

Dysfunctional breathing is a term describing a group of breathing disorders in patients where chronic changes in breathing pattern result in dyspnea and often non respiratory symptoms in the absence of, or in excess of, organic respiratory disease

- Gardner WN. The pathophysiology of hyperventilation disorders. Chest 1996; 109: 516-534. Morgan MD. Dysfunctional breathing in asthma: is it common, identifiable and correctable? Thorax 2002; 57: Suppl 2. II31-II35.

What is Breathing Dysfunction?

‘Inappropriate breathing which is persistent enough to cause symptoms, with no apparent organic cause’ Clifton-Smith T, Rowley J. Breathing pattern disorders and physiotherapy: inspiration for our profession. Phys Ther Rev. 2011; 16: 75-86

“are abnormal respiratory patterns which range from simple upper chest breathing to, at the extreme end of the scale, hyperventilation”.

Lum L 1987 Hyperventilation syndromes in medicine and psychiatry: a review. J. R Soc Med. 80:229-231.

Proposed classification of dysfunctional breathing patterns, with associated lung diseases and key references:

Breathing pattern	Number of papers	Linked Conditions
Hyperventilation syndrome		Asthma Panic disorder
Periodic deep sighing		Asthma Panic disorder
Thoracic dominant breathing		Asthma COPD Heart failure Panic disorder
Forced abdominal expiration		COPD Obstruction
Thoraco-abdominal asynchrony		Neuromuscular disease Respiratory failure

Typical symptoms can include:

- Frequent sighing and yawning
- Breathing discomfort
- Disturbed sleep
- Erratic heartbeats
- Feeling anxious and uptight
- Pins and needles
- Upset gut/nausea
- Clammy hands
- Chest Pains
- Chest Pains
- Shattered confidence
- Tired all the time
- Achy muscles and joints
- Dizzy spells or feeling spaced out
- Irritability or hyper vigilance
- Feeling of 'air hunger'

Observe

Breathing pattern Pattern: RR

Mouth- Nose / Upper chest -Abdominal

Erratic pattern; rapid, yawn, sigh, cough, over inflated upper chest

Handshake (clammy hands are an indicator of a BPD)

Sitting and standing postures-rounded shoulders-
Pokey chin- Closed breathing window

Body tension- jaw, mid back, pelvis, legs

Common presentation:

Upper chest vs Abdomen

Mouth vs Nose

Forward head posture

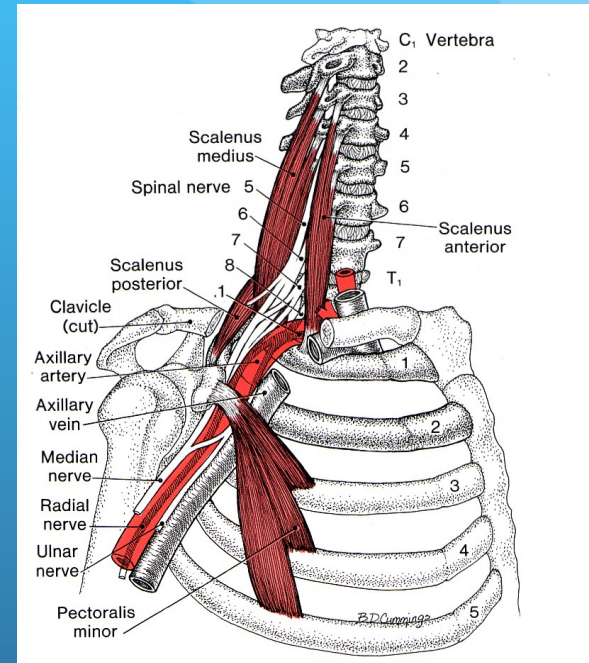
High shoulders, rounded

Closed breathing window

Tense legs

Pallor

Fidgety



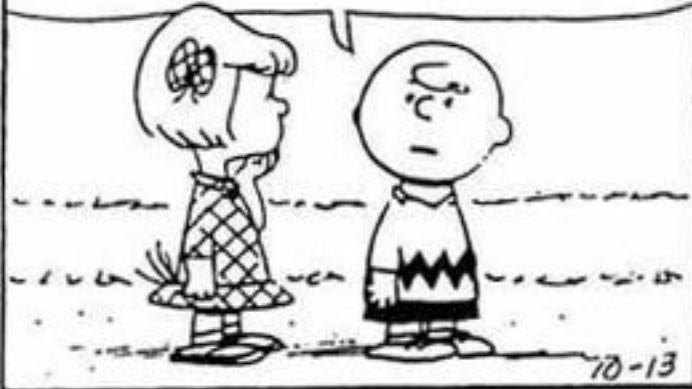
PEANUTS

THIS IS MY "DEPRESSED STANCE"

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WHEN YOU'RE DEPRESSED, IT MAKES A LOT OF DIFFERENCE HOW YOU STAND...



THE WORST THING YOU CAN DO IS STRAIGHTEN UP AND HOLD YOUR HEAD HIGH BECAUSE THEN YOU'LL START TO FEEL BETTER..



IF YOU'RE GOING TO GET ANY JOY OUT OF BEING DEPRESSED, YOU'VE GOT TO STAND LIKE THIS..



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Effects of chronic mouth breathing

- Loss of URT protection
- Overuse of upper chest & deep neck muscles
- Loss of resistance - reduced energy efficiency
- Nitric oxide

BradCliff®

Breathing

Hyperinflation

The nose

Abdominal Breathing

Follow up sessions

1-6

G.P Letter

Relaxation

7 'Level Switch' off

5x5's

2-min calm down bliss
out

Activity / Exercise

Function

Changes during exercise

Integrated Sessions

High Performance

Chests Kids Pain

Women

Dialogue

Sniff test

Lifestyle skills

Sleep

Nutrition

Caffeine

Confidence

RoBE

HAD



Better Breathing/Learn breathing

Diaphragmatic breathing

What to do when you are breathless

Clearing phlegm from your lungs

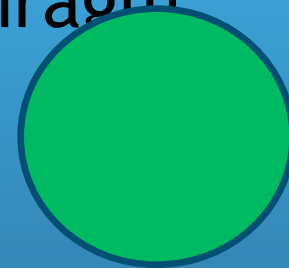
Exercises mornings and evenings:

Basic Treatment Guidelines

Diaphragmatic breathing

Use the Green Dot method for hyperinflation reprogramming during the day, check nose breathing then think about using the diaphragm

BradCliff® motto of
‘When in doubt breathe out’



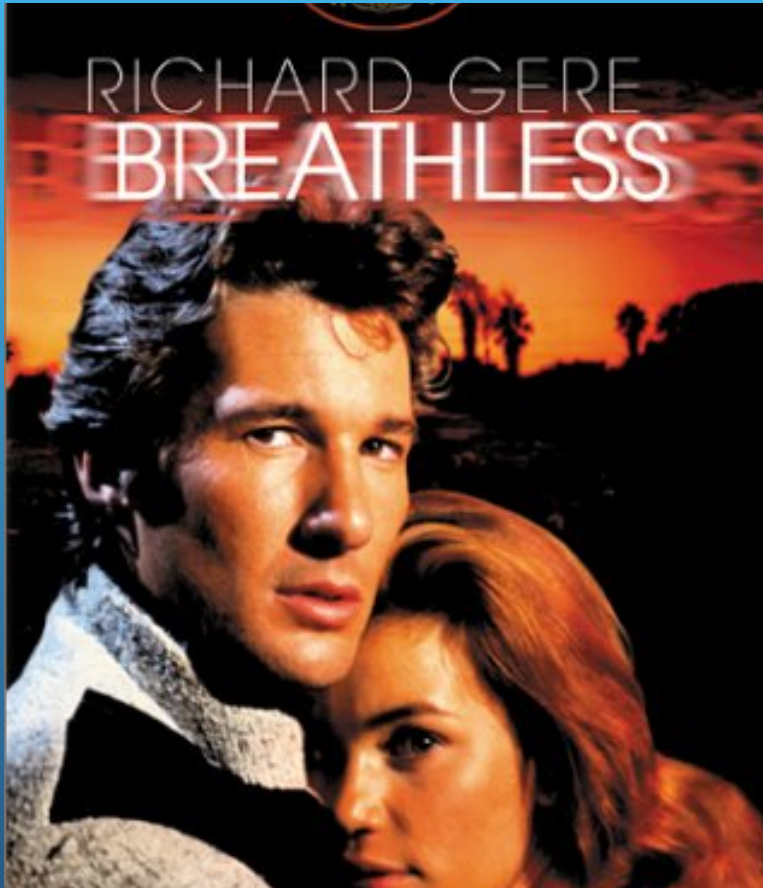
- Breathing exercises for adults with asthma (Review)
Freitas DA, Holloway EA, Bruno SS, Chaves GSS, Fregonezi GAF, Mendonça KMPP
2013 The Cochrane Collaboration.
- The role of breathing training in asthma management-Mike Thomas 2013
- The Effect of Physiotherapy-Based Breathing Retraining on Asthma Control -Journal of Asthma, 48:593-601, 2011
-EIRINI P. GRAMMATOPOULOU, PH.D., P.T.,
et al

Diaphragmatic breathing

Nasal rinsing

- Saline & bicarbonate solutions
- Ease of use with nasal rinse bottles
- Exhale out mouth when squeezing bottle
- All have a go before you leave!

What to do when you are breathless



Inhaler Technique



Sputum



Chronic Cough

Exercises mornings and evenings



Thank-you

“Breathe Well To Be Well”

Tania Clifton-Smith