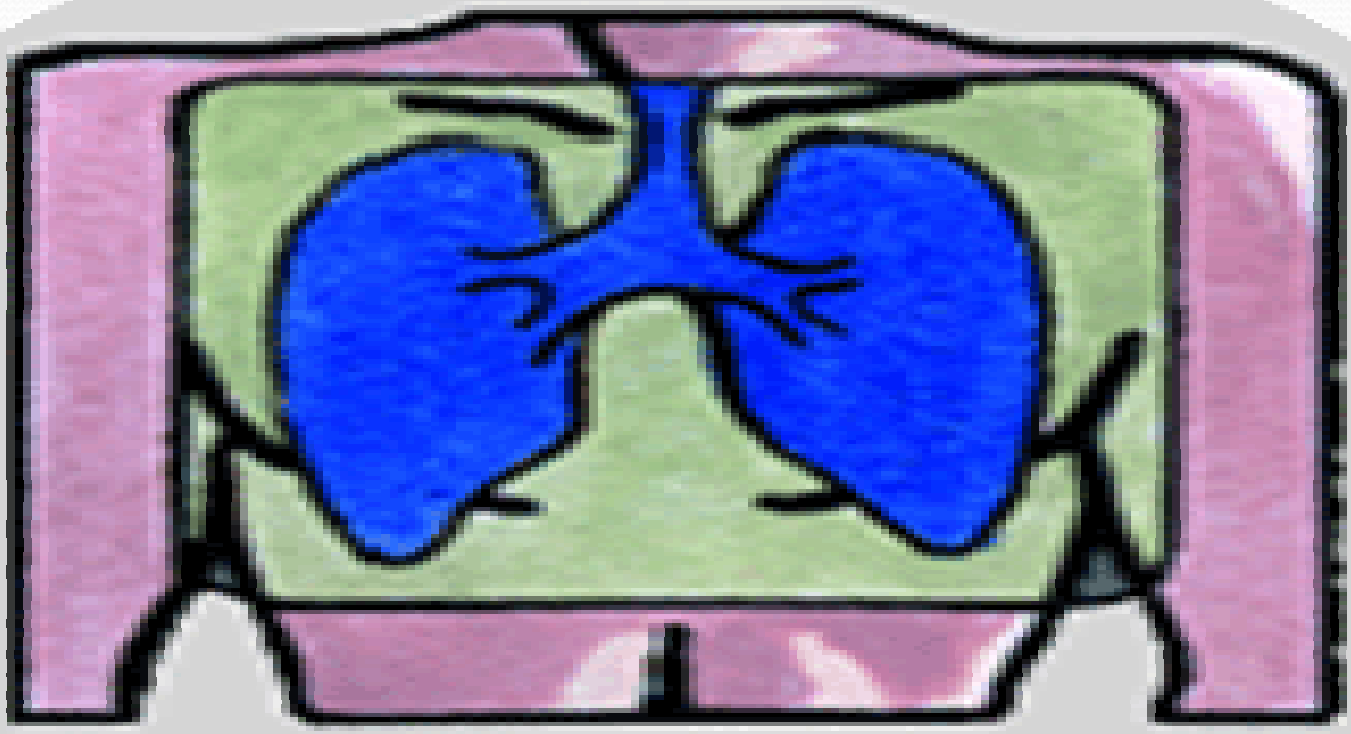
Repirotery Failure د مشتاق وتوت



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@Identification:

is a condition in which pulmonary gas exchange fails to maintian normal arterial Oxygen & CO2 levels in the body.

@ Classifications: divided into 2 types (I&II) according to the absence or

TYPE I		TYPE I I	
PaO2 < 8 kPa Pa CO2 normal or <6.6 kPa		PaO2< 8 kPa PaCO2> 6.6 kPa	
Acute H+ normal , elevated	Chronic Normal	Acute elevated	Chronic Normal , elevated
HCO3 normal	Normal	normal	elevated

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Pathophysiology:

type I: localised
type II: generlised

Type I	TypeI	Type II	Type II
acute	chronic	acute	chronic
Acute asthma	Emphysema	Acute sever asthma	COPD
Pul odema	Lung fibrosis	AE of COPD	Sleep apnea
Pneumonia	Lymphangitis carcinomatosis	Primary alveolar hypoventilation	Kyphoscoliosis
Lobar collapse	RT to LT shunt	Upper airway obstruction	Myopathies
Pneumothorax	Brain stem lesion	Acute neuropathies	Ankylosing spondylitis
Pul embolism		Narcotic drugs	
ARDS		Flail chest injury	

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@Managment:

Acute or Chronic
Underlying (heart / lung) diseases
Drugs history

Wheezing? wheeze? Crackles?
Diminish breath sound?
Air-space consolidation?
S/S of heart failure
Clubbing finger

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Work up

LAB: –

Arterial blood gas; Pulse oxymeter –

CBC, CRP –

Cardiac enzyme –

Electrolytes: K, Pi, Mg... Ca, Na.... –

Biochemistry data, –

EKG (cardiac echo) –

Chest X-ray (chest CT, lung scan) –

Lung function test –

PA catherter –

Neurological exam (Brain CT, EEG.....) –

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() O2 therapy:

() Ventilation:

indicated if:

1- hypoxic despite appropriate O2 therapy

2- progressive hypercapnea

3- acute respirotery acidosis

4- exhausted

ventilation either by NIV or mechanical ventilation.

()complications:

*systemic hypotension

*pulmonary hpt

*polycythemia

*tachycardia

*cerebral dysfunction (confusion to coma).

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Oxygen therapy:

1- high conc:

40-60%, high flow mask, type I RF , need humidification

2- low conc:

24-28% , venturi mask, type II RF, no need humidification

3- chronic O2 delivery: throgh cylinders, delivered at home, low conc. Via nasal cannulae

toxic effect of O2:

*100% O2 is irritant & toxic if given for more than a few hours

*retrolental fibroplasia, blidness, tonic clonic seizure.

*in adults cause pul odema & later on fibrosis

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ARDS:

*Its acute, diffuse pulmonary inflammatory response to either direct (via airway or chest truma) or indirect (blood-borne)

*frequently associated with multiple organ failure

*criteria:

1- hypoxemia

2- CXR show diffuse bilateral infilteration

3- absence of raised LT atrial pressure

4-impaired lung compliance

Inhalation (direct)	Blood-borne (indirect)
Aspiration, near drawing	sepsis
pneumonia	Multiple truma
Toxic gases, burn injury	Cardiopulmonary bypass
Blunt chest truama	Drugs(heroin, barbiturates, thiazides)
	Anaphylaxis(snake venom)
	Carcinomatosis, pancreatitis
	Obstetric complications

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Treatment:

1- treat underlying disease
2- O2 therapy
3- ventilation
4- prone ventilation
5- inhaled nitric oxide
6- CS

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