

# MRCS PART A NOTES - REDA

<b>2. Physiology</b>	<b>1</b>
Jugular Venous Pressure (JVP)	3
The Normal ECG	4
Acute Phase Proteins	5
Tumour Necrosis Factor (TNF)	5
Disorders of Acid - Base Balance	6
Arterial Blood Gas (ABG) Interpretation	7
Fluid Compartment Physiology	8
Cerebrospinal Fluid (CSF)	8
Coagulation Cascade	9
Interpretation Blood Clotting Test Results	10
Abnormal Coagulation	10
Hypercoagulability	10
Warfarin	11
Bleeding	11
Cardiac Physiology	12
Electrical Activity of the Heart	14
Inotropes and Cardiovascular Receptors	15
Anion Gap	15
Calcium Homeostasis	16
Hypocalcaemia: Causes and Management	16
Hypercalcaemia	17
Management Of Hypercalcaemia	17
Hyperkalaemia	18
Hypokalaemia	18
ECG Features in Hypokalemia	18
Hypomagnasaemia	19
Hyponatraemia	19
Hyperuricaemia	20
Potassium Secretion - GI Tract	20
Iron Metabolism	20
Pulmonary Artery Occlusion Pressure Monitoring	21
Respiratory Physiology: Lung Compliance	21
Transfer Factor	21
Control of Ventilation	22
Alveolar Ventilation	22
Oxygen Transport	23
Lung Volumes	24
Parathyroid Hormone	25

<i>Glucagon</i>	25
<i>Gastrointestinal Secretions</i>	25
<i>Gastric Secretions</i>	26
<i>Peristalsis</i>	28
<i>Pancreas Endocrine Physiology</i>	28
<i>Pancreas Exocrine Physiology</i>	28
<i>Renal Physiology</i>	29
<i>Acute Renal Failure: Pre Renal Failure Vs. Acute Tubular Necrosis</i>	30
<i>Diuretic Agents</i>	30
<i>Syndrome of Inappropriate Antidiuretic Hormone (SIADH): Causes</i>	31
<i>Renin</i>	31
<i>Renin-Angiotensin-Aldosterone System</i>	32
<i>Phases of Wound Healing</i>	33
<i>Response to Surgery</i>	33
<i>Stress Response: Endocrine and Metabolic Changes</i>	34
<i>Shock</i>	36
<i>Urinary Incontinence</i>	38
<i>Adrenal Physiology</i>	39
<i>Vitamin Deficiency</i>	40
<i>Vitamin B12 Deficiency</i>	40
<b>3. Pathology</b>	<b>41</b>
<i>Acute Inflammation</i>	42
<i>Chronic Inflammation</i>	43
<i>Gastritis</i>	44
<i>Lead Poisoning</i>	44
<i>Cell Death</i>	45
<i>Disseminated Intravascular Coagulation</i>	46
<i>Disseminated Intravascular Coagulation - Diagnosis</i>	46
<i>Cardiac Murmurs</i>	47
<i>Nerve Injury</i>	47
<i>Absence Of The Vas Deferens</i>	48
<i>Cleft Lip and Palate</i>	48
<i>Choanal Atresia</i>	48
<i>Achondroplasia</i>	48
<i>Genetics and Surgical Disease</i>	49
<i>Tumour Markers</i>	49
<i>Hodgkins Lymphoma</i>	50
<i>Acute Intermittent Porphyria</i>	51
<i>Aggressive Fibromatosis</i>	51
<i>Hereditary Spherocytosis</i>	51
<i>Hypersensitivity Reactions</i>	51

<i>Koebner Phenomenon</i> . . . . .	51
<i>Adrenal Lesions - Incidental</i> . . . . .	52
<i>Phaeochromocytoma and Adrenal Lesions</i> . . . . .	52
<i>Glucagonoma</i> . . . . .	53
<i>Glioma</i> . . . . .	53
<i>Thymus</i> . . . . .	53
<i>Sarcomas</i> . . . . .	54
<i>Trypanosoma Cruzi</i> . . . . .	55
<i>Actinomycosis</i> . . . . .	55
<i>Burns</i> . . . . .	56
<i>Collagen</i> . . . . .	57
<b>4. Peri-operative care</b> . . . . .	<b>59</b>
<i>American Society of Anesthesiologists Physical Status Scoring System (ASA)</i> . . . . .	60
<i>Preparation for Surgery</i> . . . . .	60
<i>Pre-operative Fluid Management</i> . . . . .	61
<i>Intra-operative Fluid Management</i> . . . . .	61
<i>Intravenous Access</i> . . . . .	62
<i>Atropine</i> . . . . .	62
<i>Local Anaesthetic Agents</i> . . . . .	63
<i>Anaesthetic Agents</i> . . . . .	64
<i>Airway Management</i> . . . . .	64
<i>Muscle Relaxants</i> . . . . .	65
<i>Malignant Hyperthermia</i> . . . . .	65
<i>Tourniquets</i> . . . . .	66
<i>Blood Products - Cross Matching</i> . . . . .	67
<i>Heparin</i> . . . . .	67
<i>Thromboprophylaxis in Surgical Patients</i> . . . . .	68
<i>Proactive Care of Older People Undergoing Surgery (POPS)</i> . . . . .	68
<b>5. Post-op management and care</b> . . . . .	<b>69</b>
<i>Acute Dystonic Reaction</i> . . . . .	70
<i>Acute Renal Failure</i> . . . . .	70
<i>Brain Death</i> . . . . .	70
<i>Adult Respiratory Distress Syndrome</i> . . . . .	71
<i>Circulatory Support of the Critically Ill</i> . . . . .	72
<i>Cryoprecipitate</i> . . . . .	72
<i>Massive Haemorrhage</i> . . . . .	73
<i>Hypovolaemia and The Surgical Patient</i> . . . . .	73
<i>Management of Pain</i> . . . . .	74
<i>Neuropathic Pain</i> . . . . .	75
<i>Nutrition Monitoring - NICE Guidelines</i> . . . . .	76

