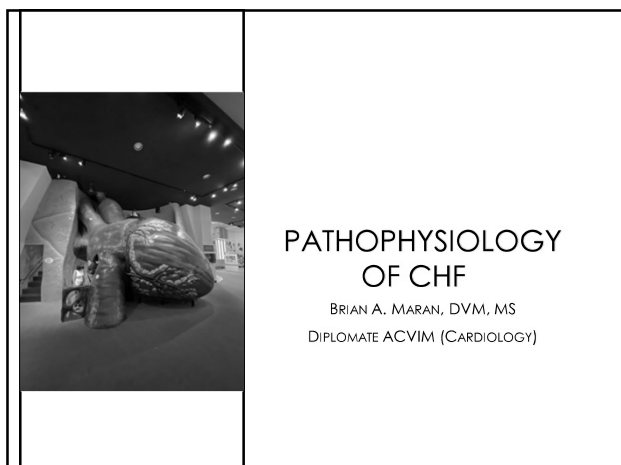
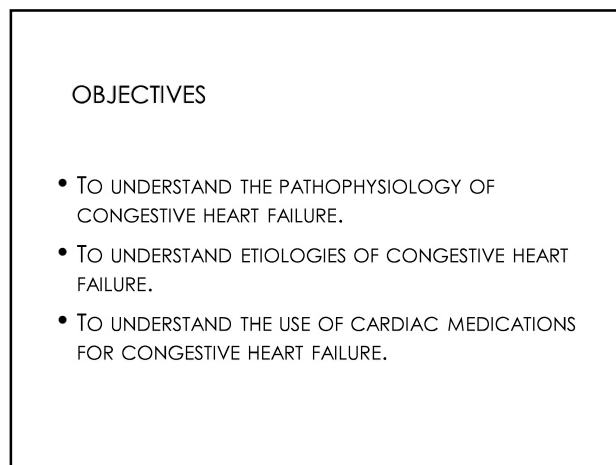
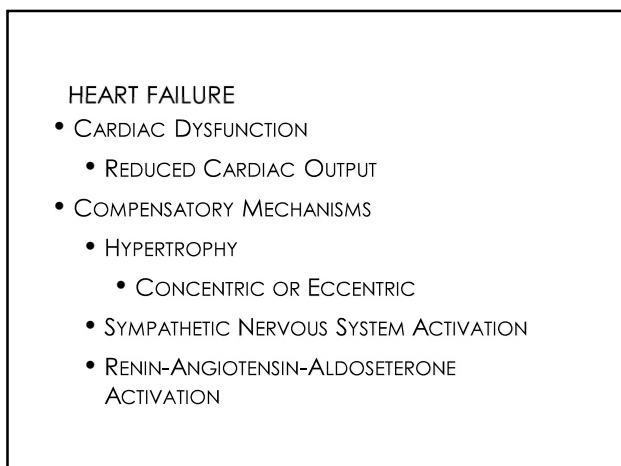




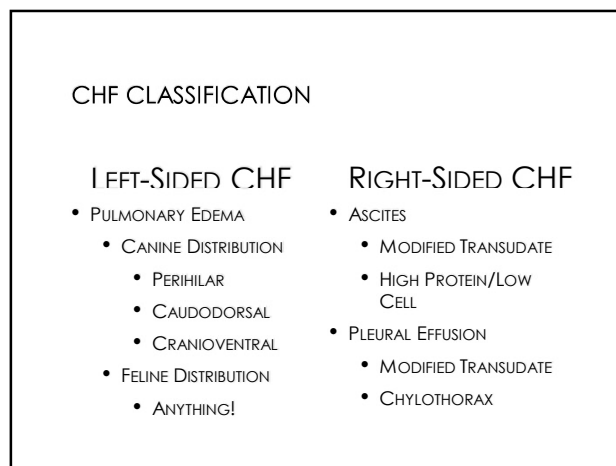
1



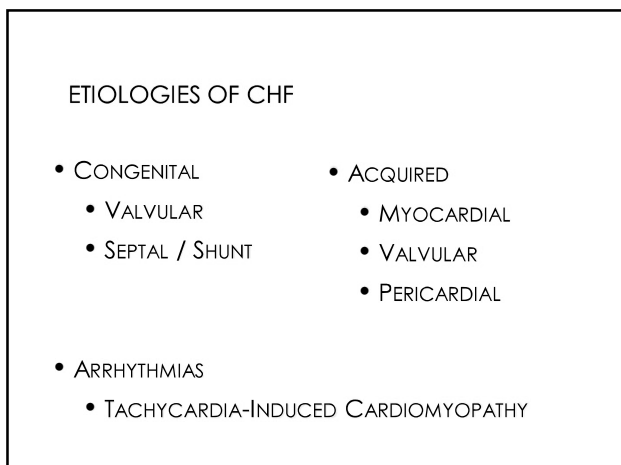
2



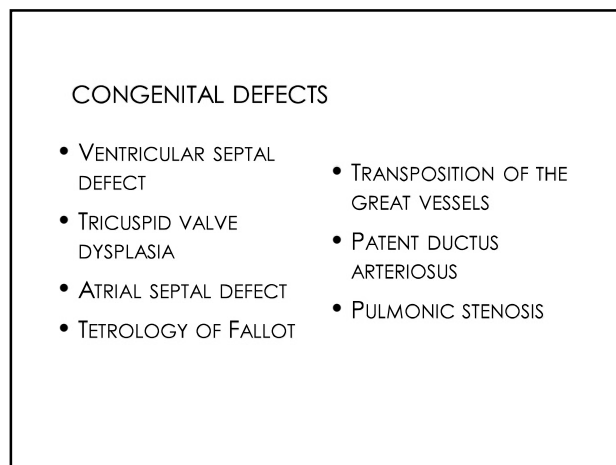
3



4



5



6

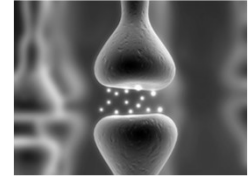
ACQUIRED CARDIAC DISEASE

- VALVULAR DEGENERATION
- INFECTIVE ENDOCARDITIS
- CARDIOMYOPATHY (PUMP FAILURE)
- PERICARDIAL DISEASE
- ARRHYTHMIAS

7

VOLUME ALTERATIONS

- INCREASED PRELOAD
 - RAAS STIMULATION
 - SODIUM RETENTION / WATER RETENTION
- INCREASED AFTERLOAD
 - RAAS STIMULATION
 - VASOCONSTRICTION
- MYOCARDIAL FAILURE



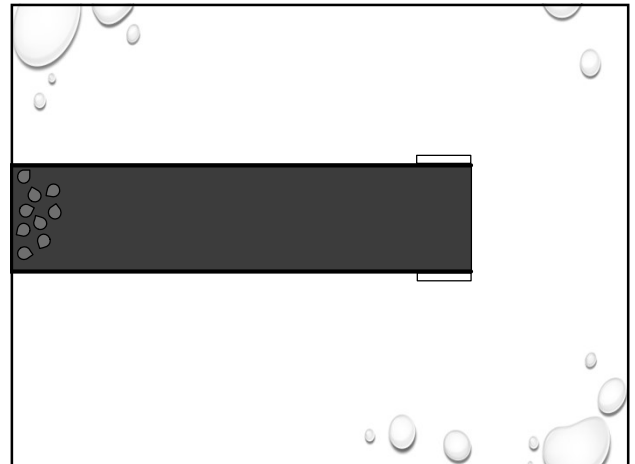
8

CARDIOVASCULAR RESPONSES

- ELEVATED SYSTEMIC VENOUS PRESSURES
 - JUGULAR DISTENSION / PULSATION
 - CAVITARY EFFUSION
- PULMONARY EDEMA

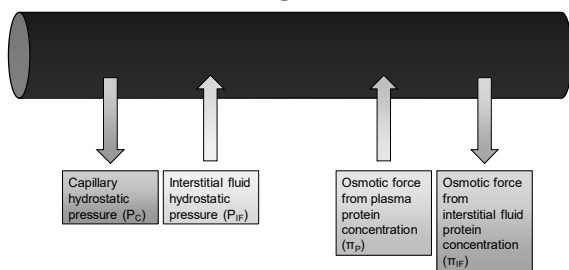


9

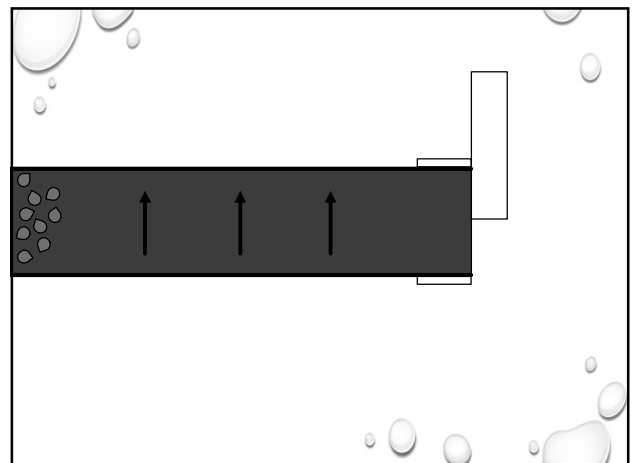


10

Starling Forces

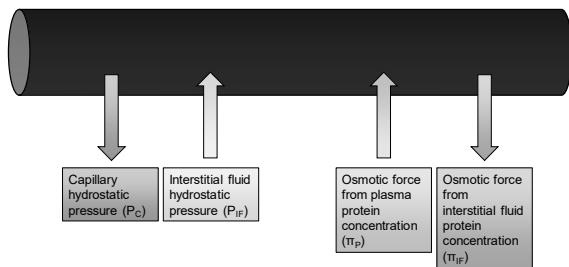


11



12

Starling Forces



13

TREATMENT OPTIONS

- PRELOAD REDUCTION
 - DIURETICS, ACE INHIBITORS
- AFTERLOAD REDUCTION
 - ACE INHIBITORS, VASODILATORS
- INOTROPIC SUPPORT
 - POSITIVE INOTROPES

14

PRELOAD REDUCTION

- DIURETIC THERAPY
 - EXCRETE WATER DUE TO MOVEMENT OF ELECTROLYTES (Na^{2+})
 - VASCULAR VOLUME DEPLETION
- PRIMARILY WORK IN THE TUBULAR LUMEN
 - ACTIVE TRANSPORT OR INHIBITION

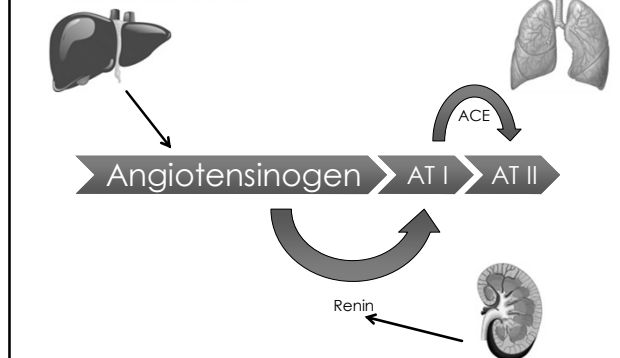
15

RENIN STIMULATION

- DECREASED RENAL PERFUSION
- DECREASED Na^{2+} DELIVERY
- SYMPATHETIC STIMULATION

16

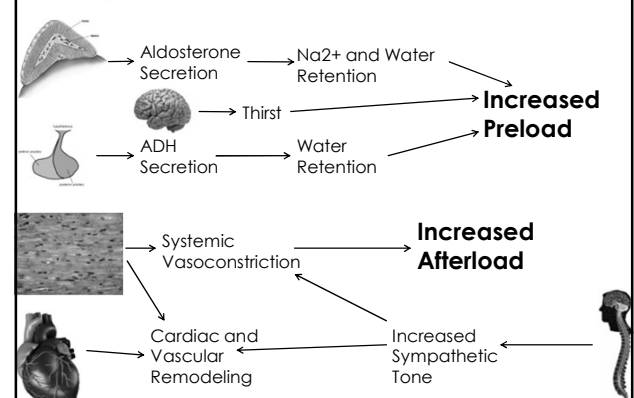
RAAS PATHWAY



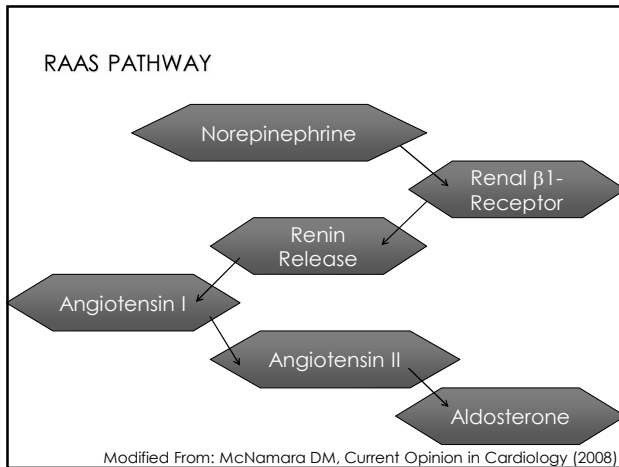
17

ANGIOTENSIN II EFFECTS

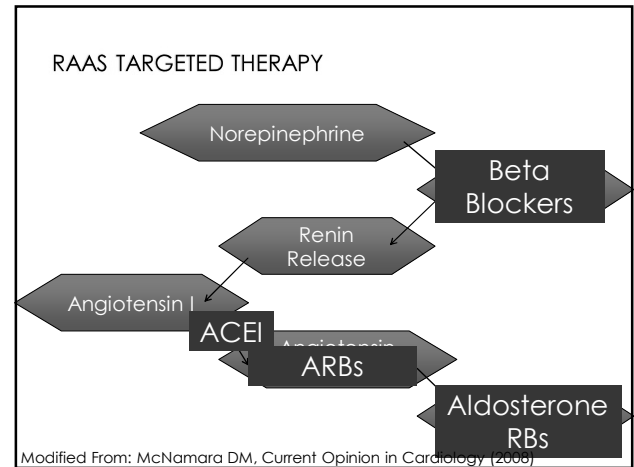
From: Maisenbacher, H: VEM 5289



18



19



20



21