

SUMMARY
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MINARCIK

TO STRESS &
TOXIC INSULTS:
- ADAPTATION
- INJURY
- DEATH

ROBBINS
02 CELLULAR RESPONSES

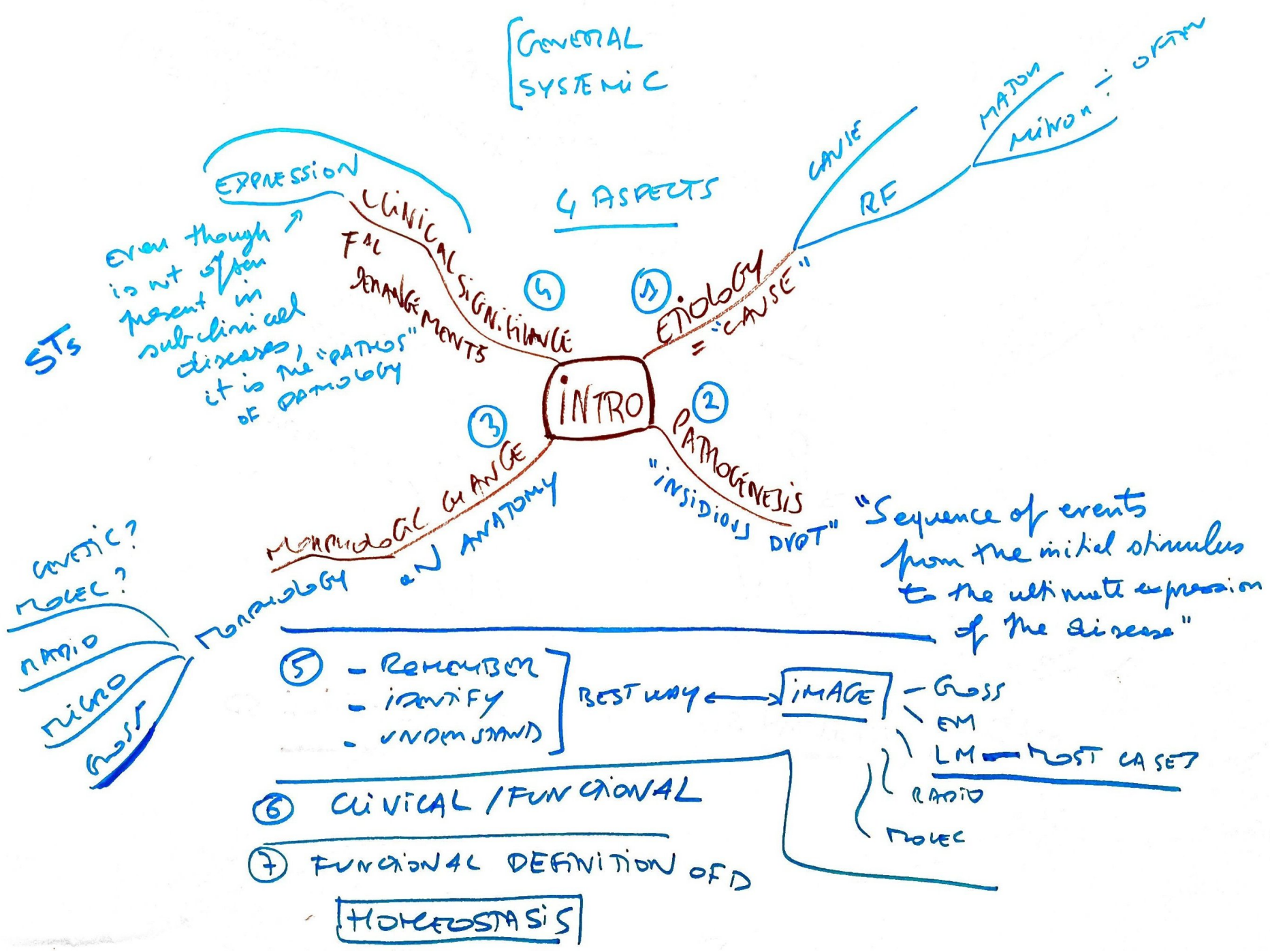


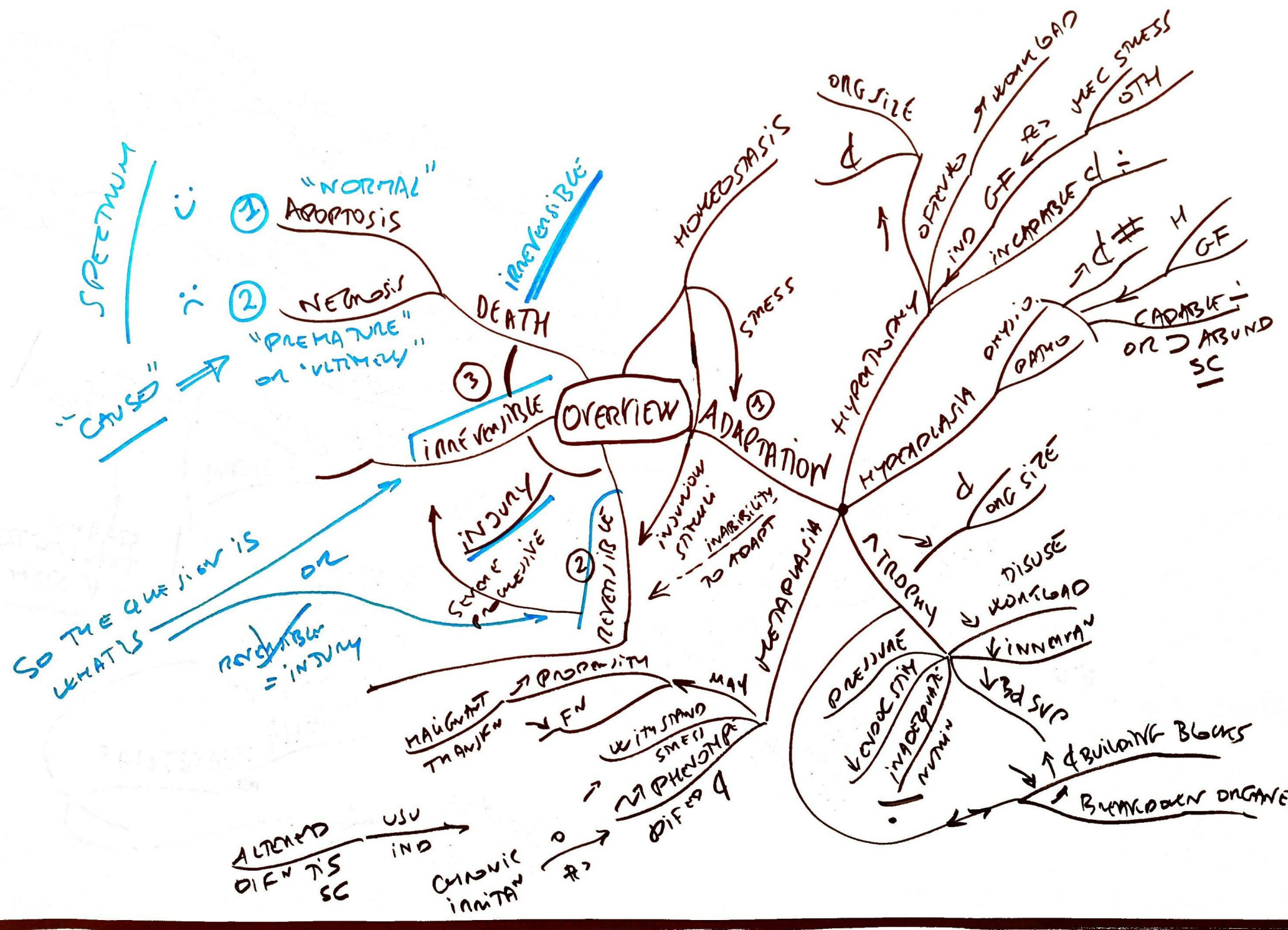
CELLULAR RESPONSES TO STRESS & TOXIC INSULTS

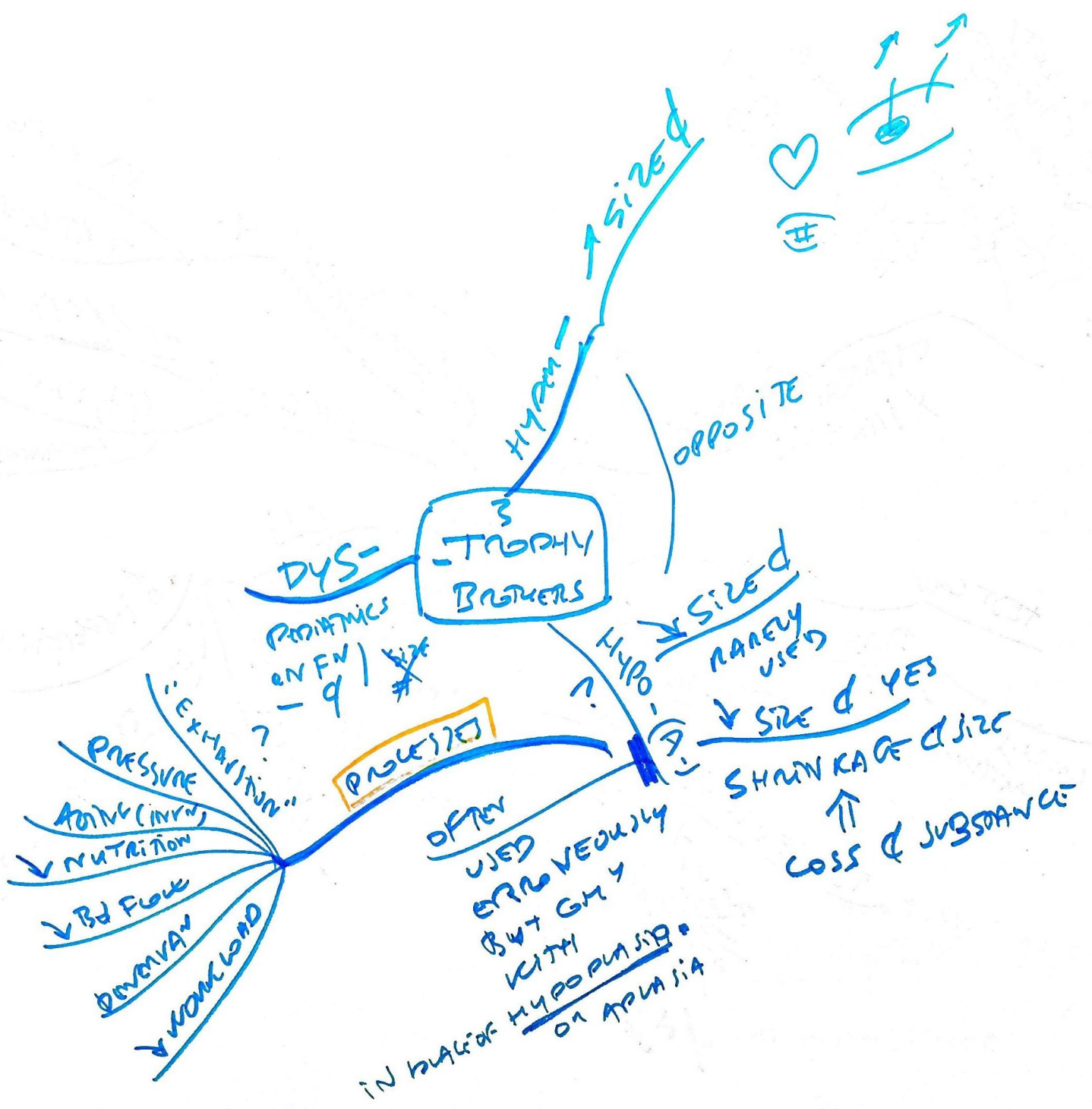


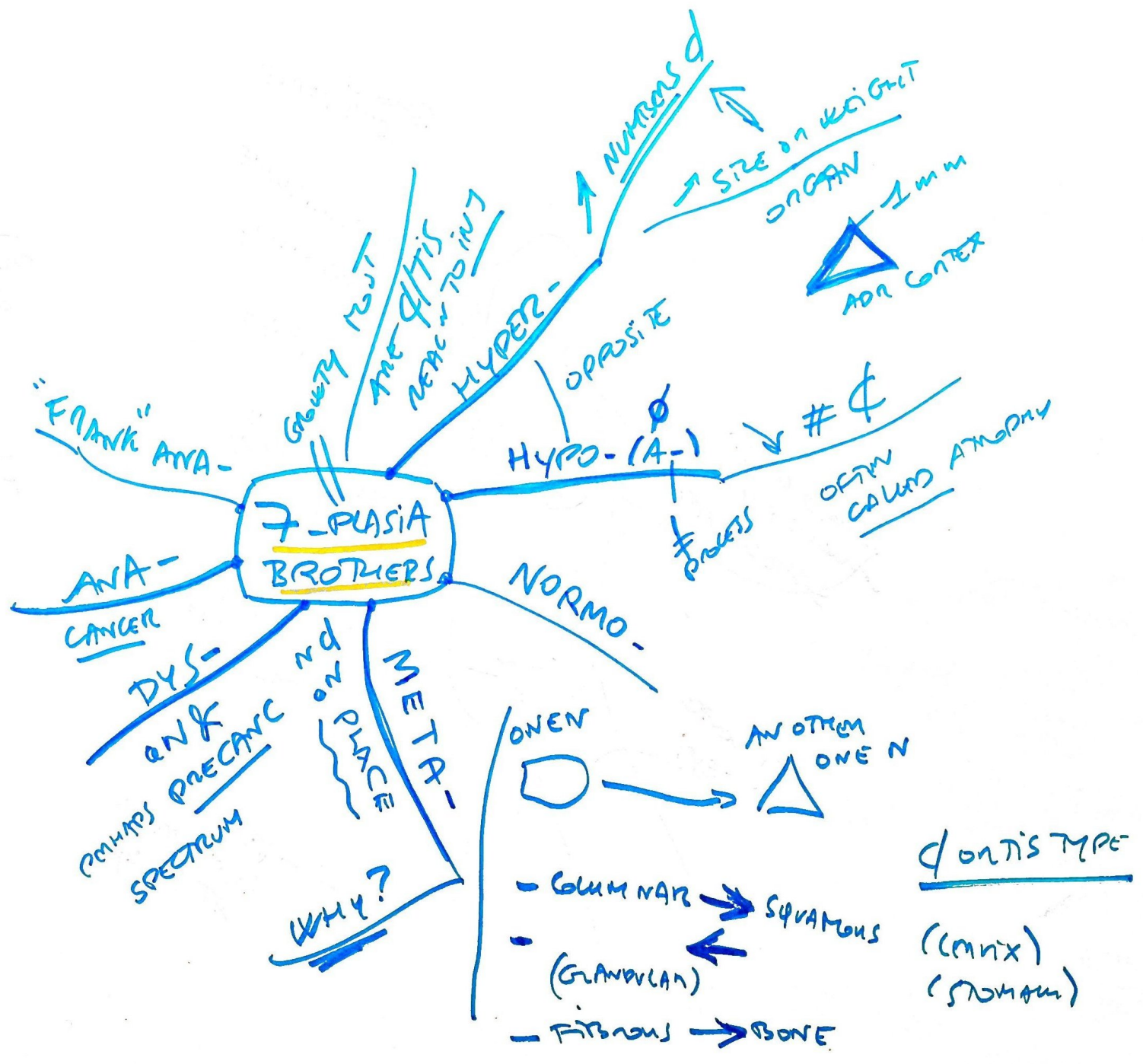
[PATHOS (SUFFERING)
LOGOS

[GENERAL
SYSTEMIC

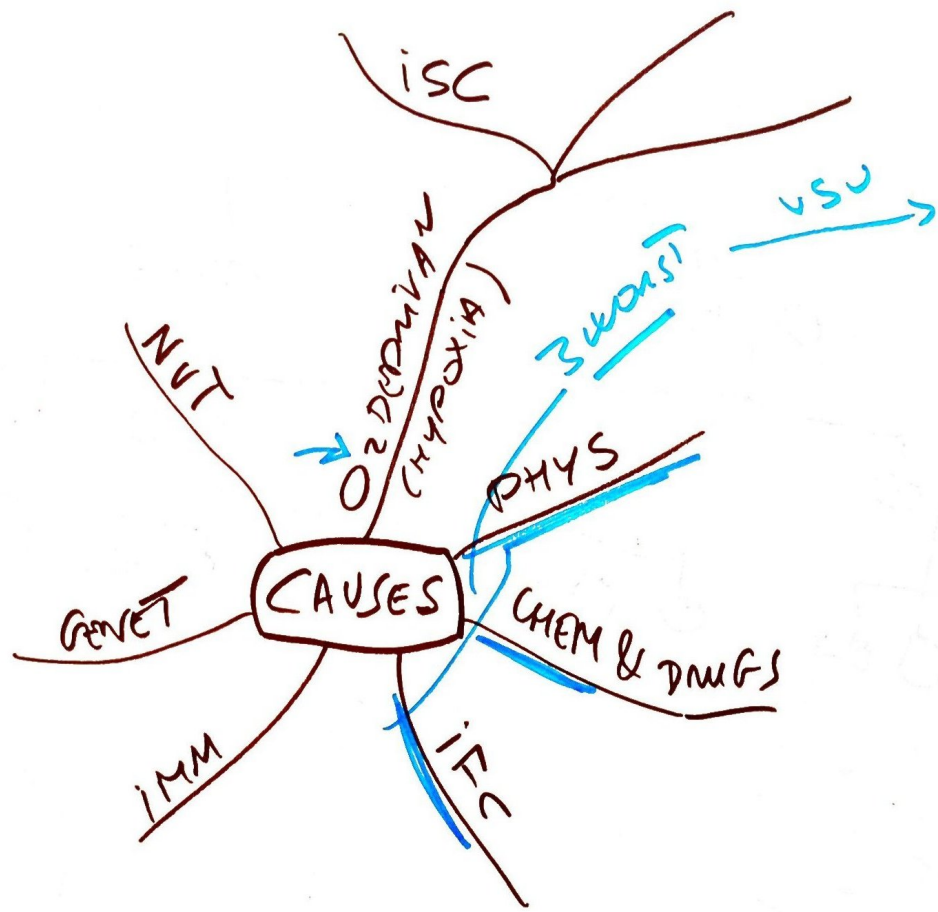




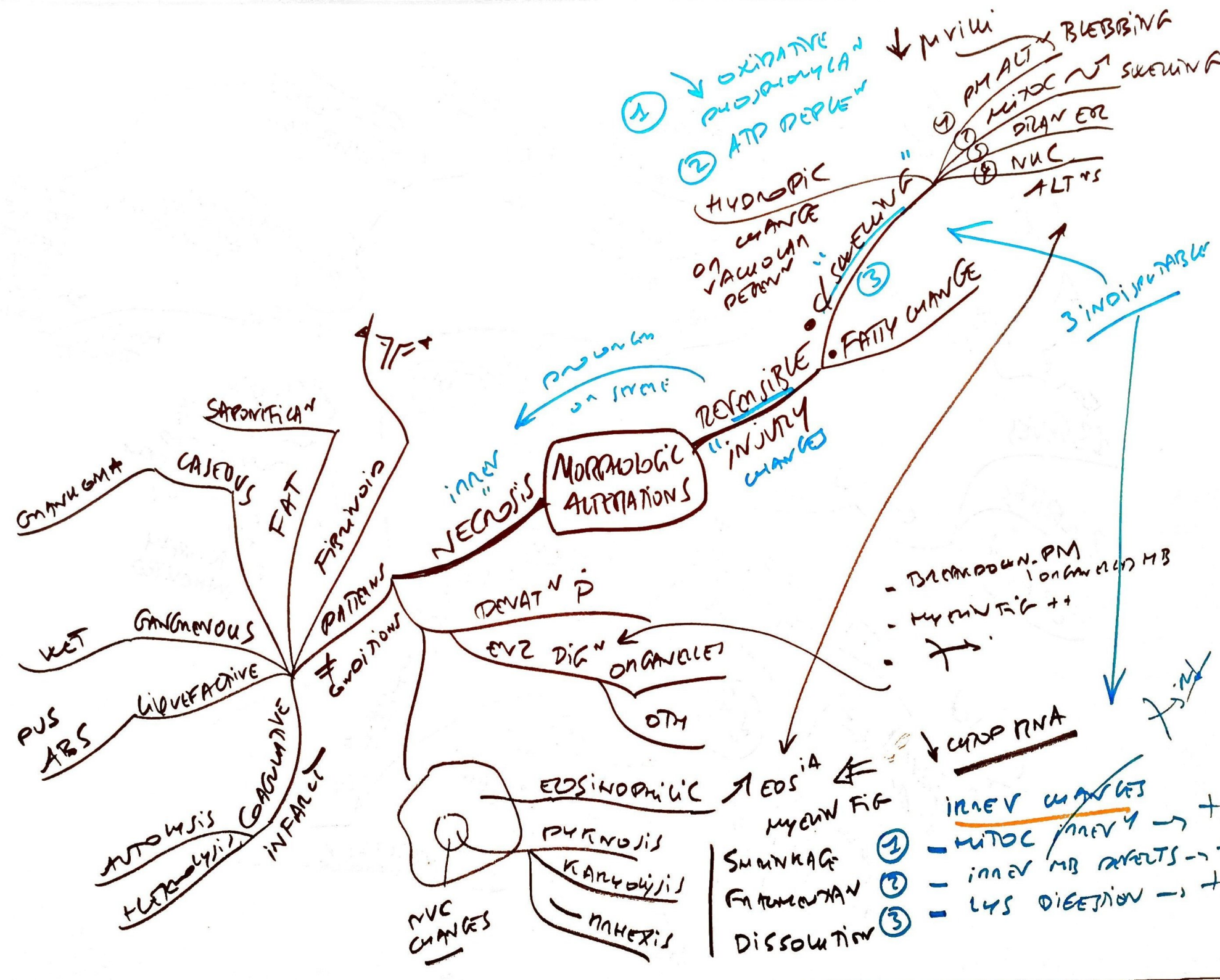




INDUJY CAUSES (REVERSIBLE)
USUAL SUSPECTS



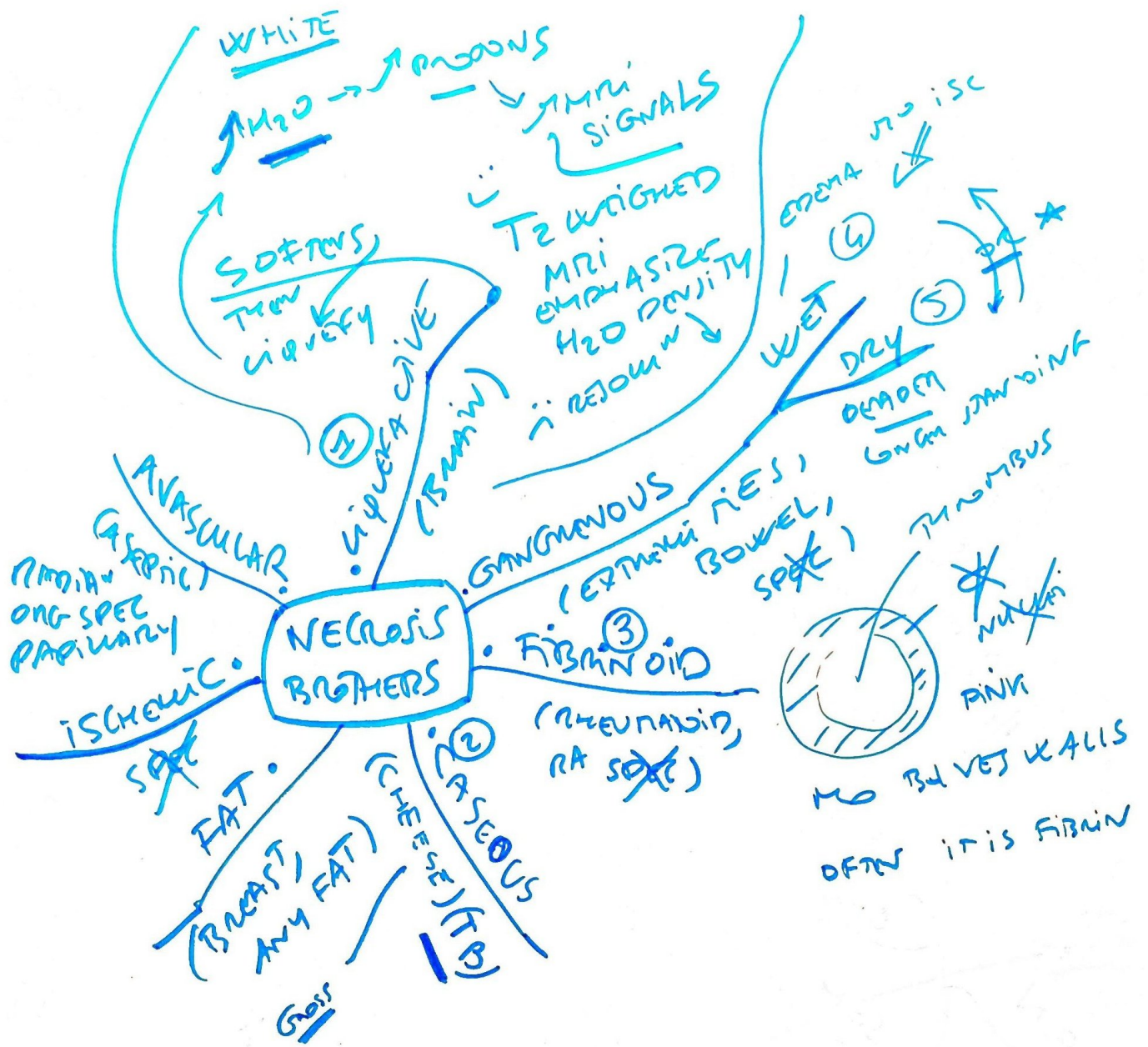
- CAUSES AND EFFECTS
- REMARKS
- IFM's



- OXIDATIVE PHOSPHORYLATION
- ATP DEPLETION
- HYDROPIK ON CHANGE
- VACUOLAR DEPLETION
- SWEILING
- FATTY CHANGE
- REVERSIBLE INJURY CHANGES
- 3 INDICATORS

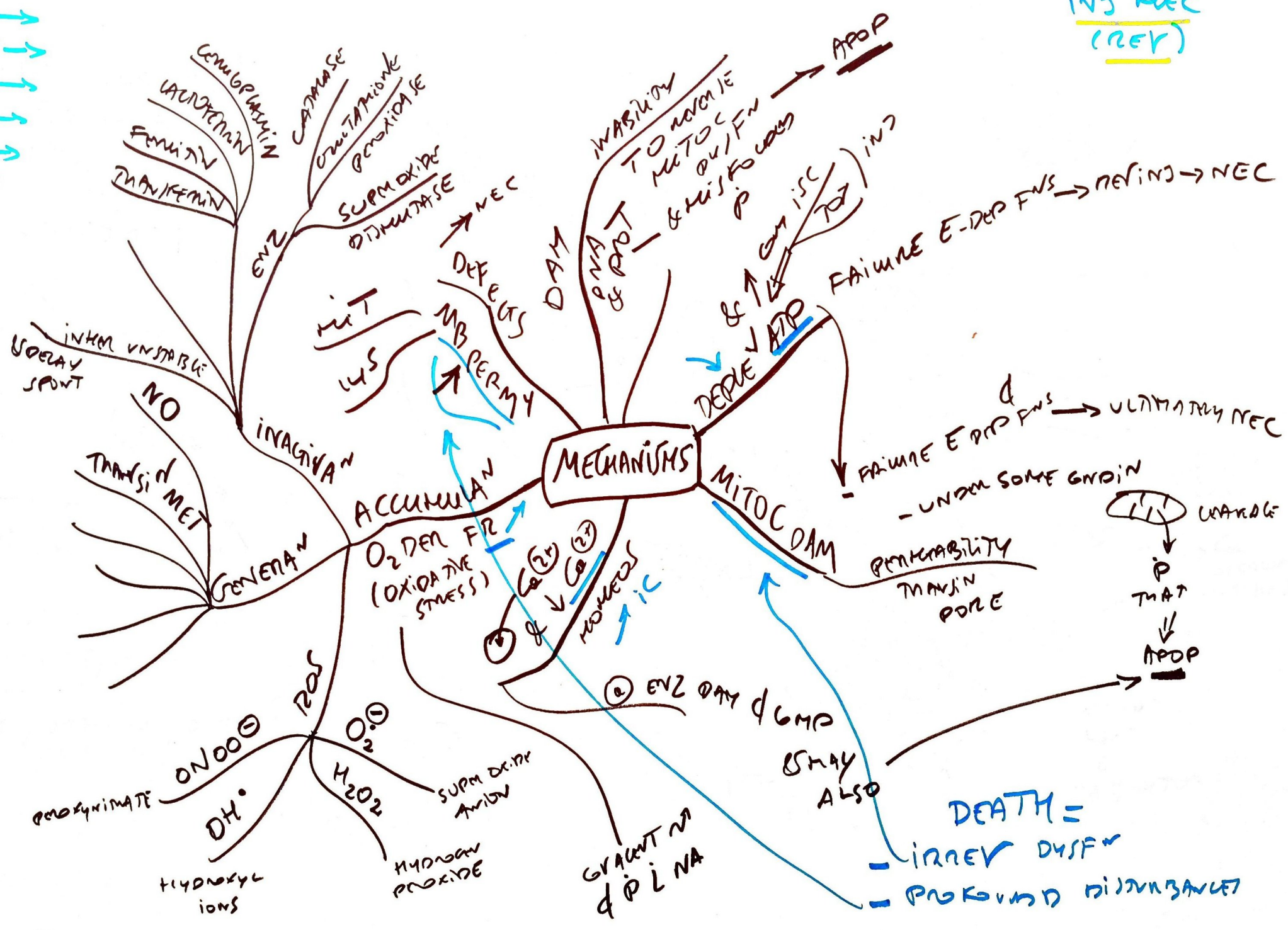
- BREAKDOWN PM
- MYOIN FIB ++
-

- INDICATORS**
- MITOC
 - INNER MB DEFECTS
 - LYS DIJECTION

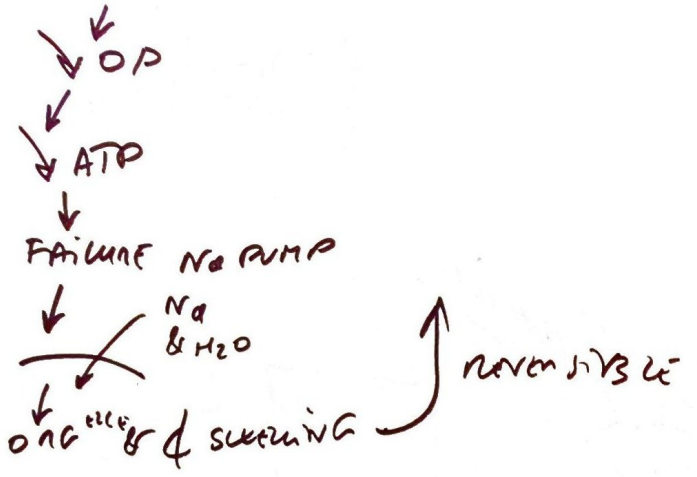


CONTINUUM
 REV →
 INNER →
 DEATH →
 EM →
 LM →
 CROSS

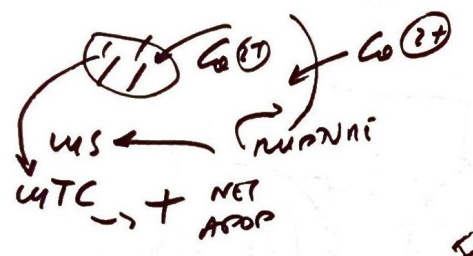
IND MEC
(REV)



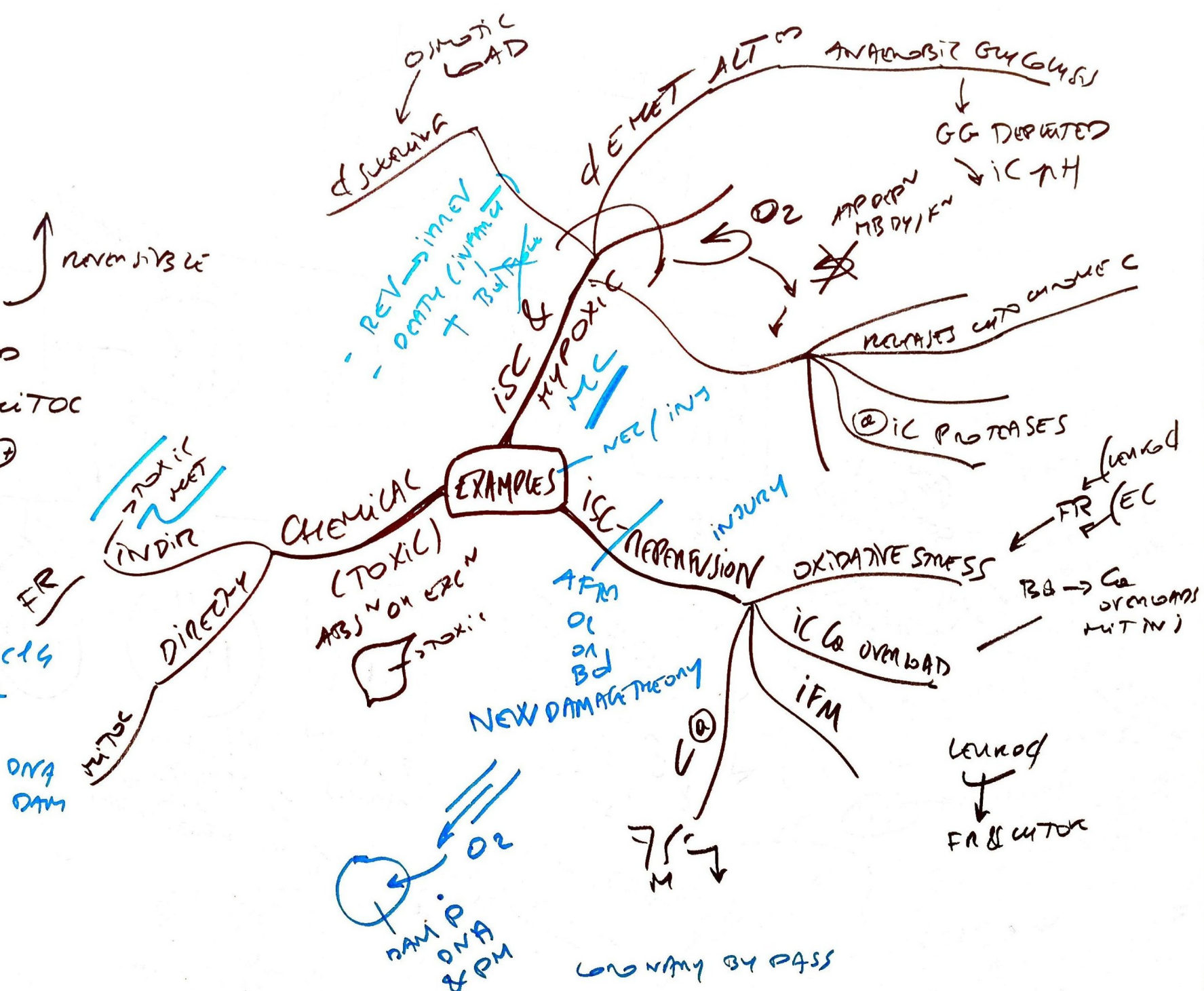
• MILD ISC

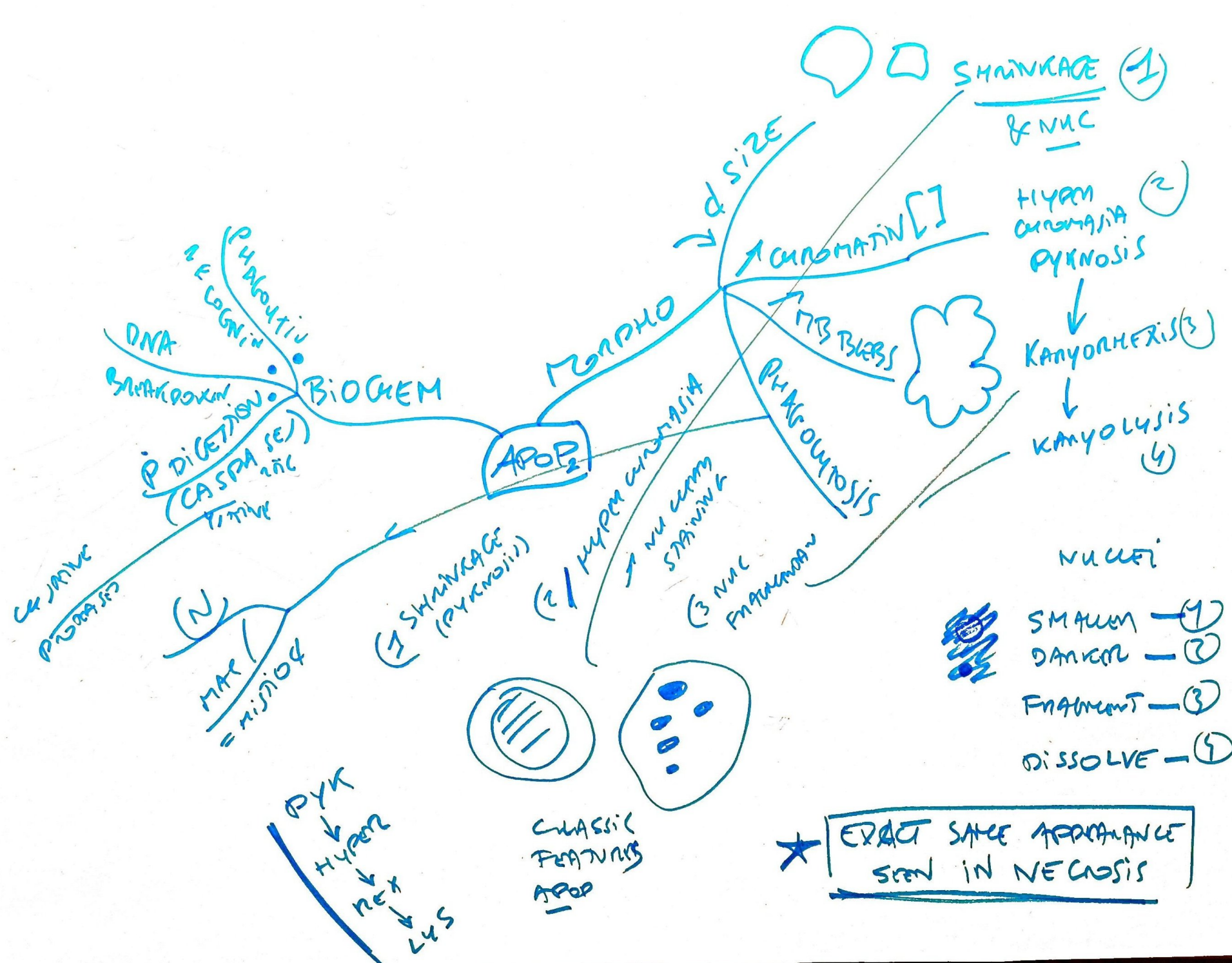


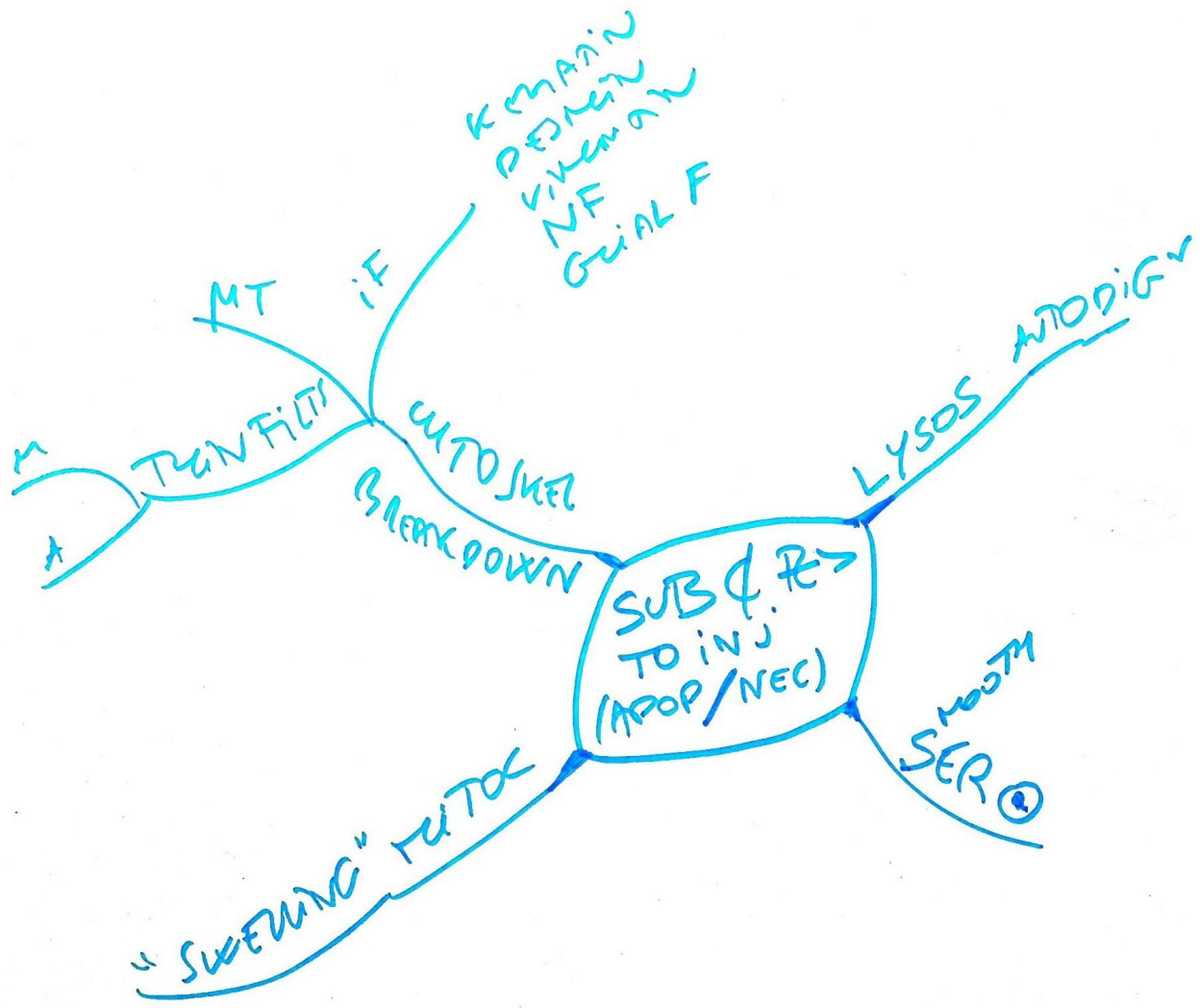
• SEVERE / PROLONGED
SEVERE DURING MITOC

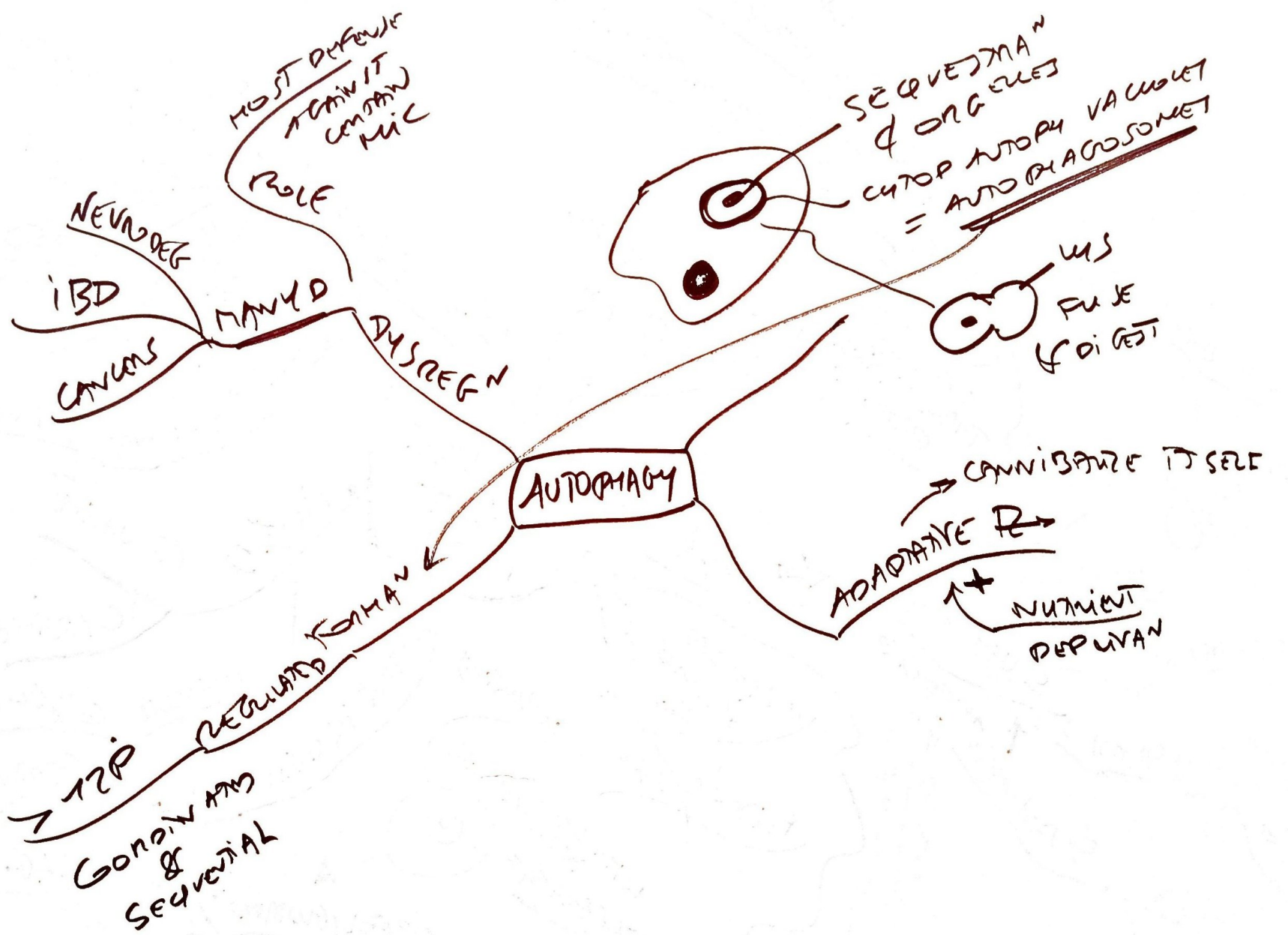


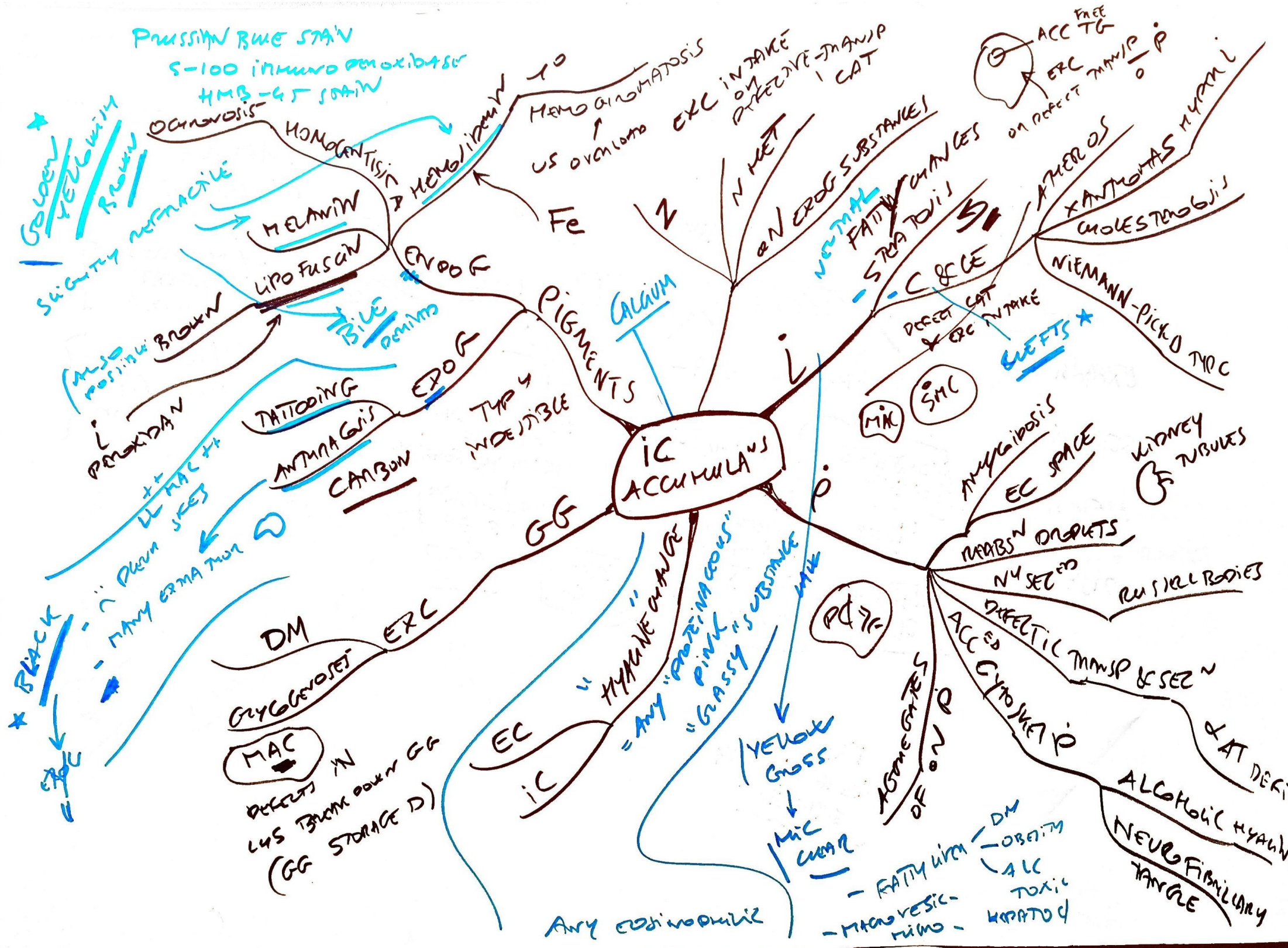
- "TOXIC" MEM CELLS
- DRUGS TYLOL
- DOSE R
- FR, ORGANELLE, DNA DAM

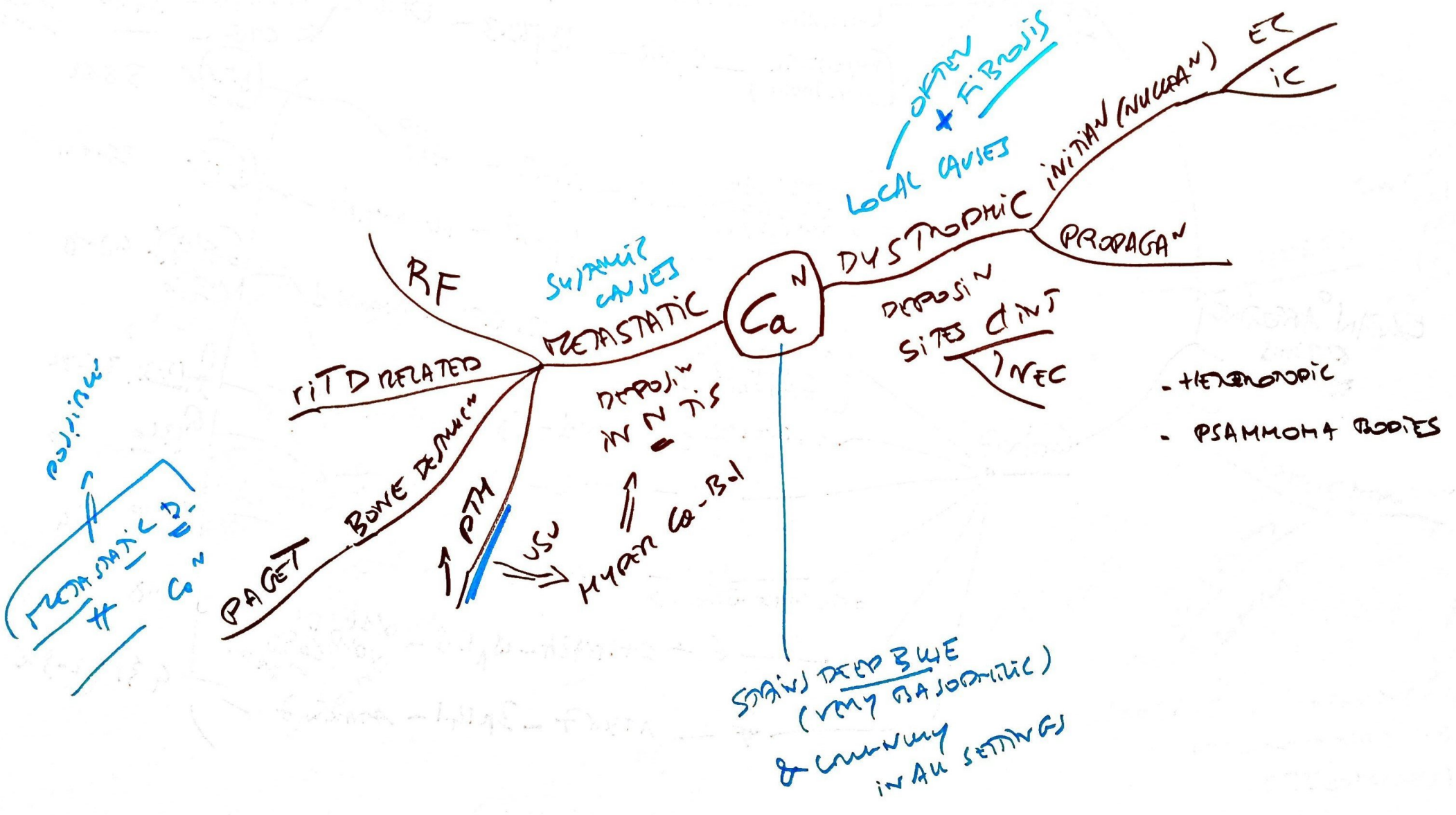






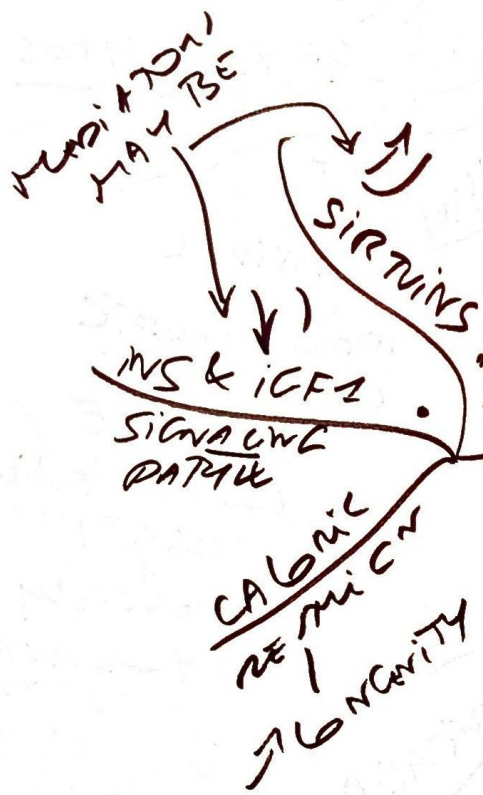






COMBINAN ACCUMULATING & DAM (FR) CAPACITY: ABILITY REPAIR DNA DEFECT & HOMOS

PROGRAMMED THEORY VS (80%)
 WORM & TERM THEORY (20%)



DE REGULATED NUTRIENT SENSING

CHAPERONES DEPENDENT

IMPAIRED PROTEASOME FUNCTIONS

HOMEOST

CELLULAR (PROLIFERATIVE) SENESCENCE

TUMOR SUPPRESSION GENES

UNLIMITED PROLIFERATION

TELOMERE MAINTENANCE

PROGRESSIVE SHORTENING CHROMOSOMAL ENDS (TELOMERES)

ACCUMULAN DNA DAM DEFECTIVE DNA REPAIR MECH GWR4 CAL RESTRICTION DNA REPAIR & P A G W K

WENNER SD

BLOOM SD

ATAKATA - TELANGELASIA

GENOMIC INSTABILITY

AGING