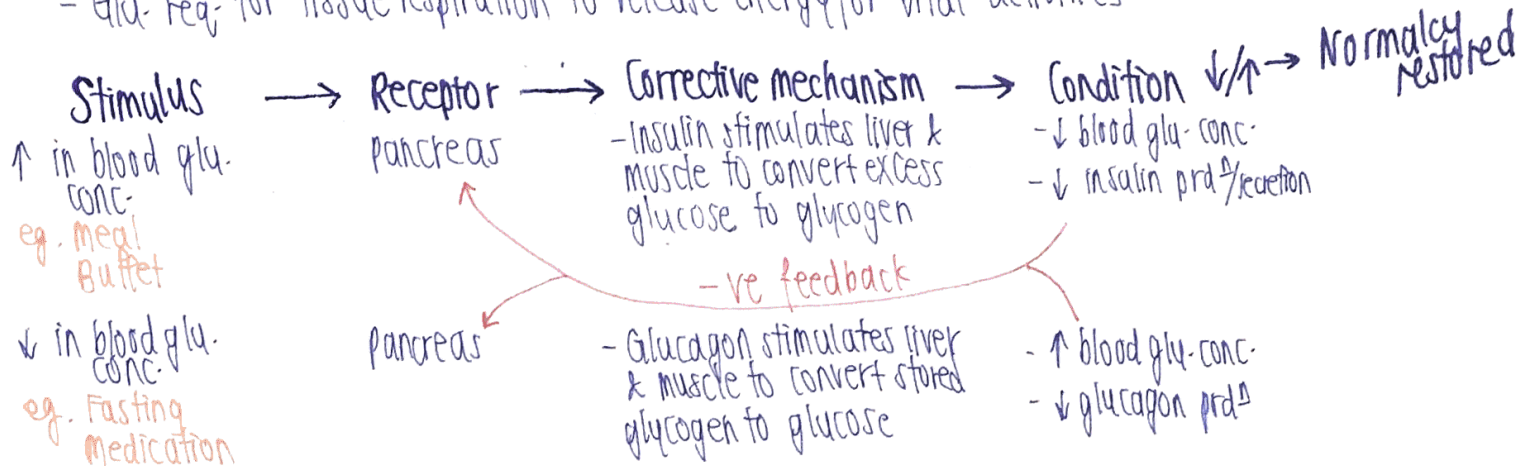


Maintenance of constant internal env.
eg- blood glu. conc.,
blood water pot.,
blood pH, blood temp.

Homeostasis

1. Regulation of blood glucose conc. 🧠 yey!

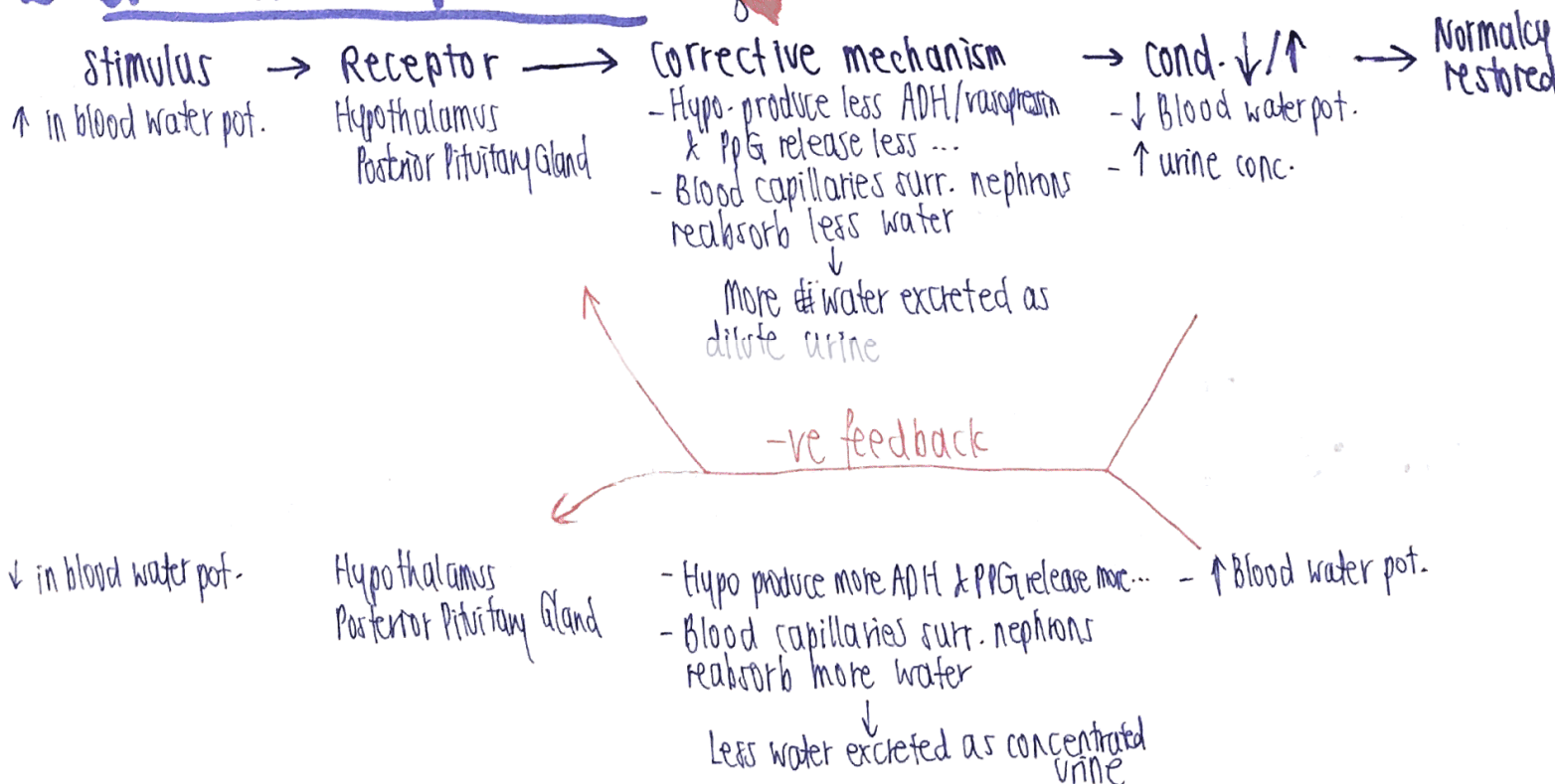
- Glu. req. for tissue respiration to release energy for vital activities



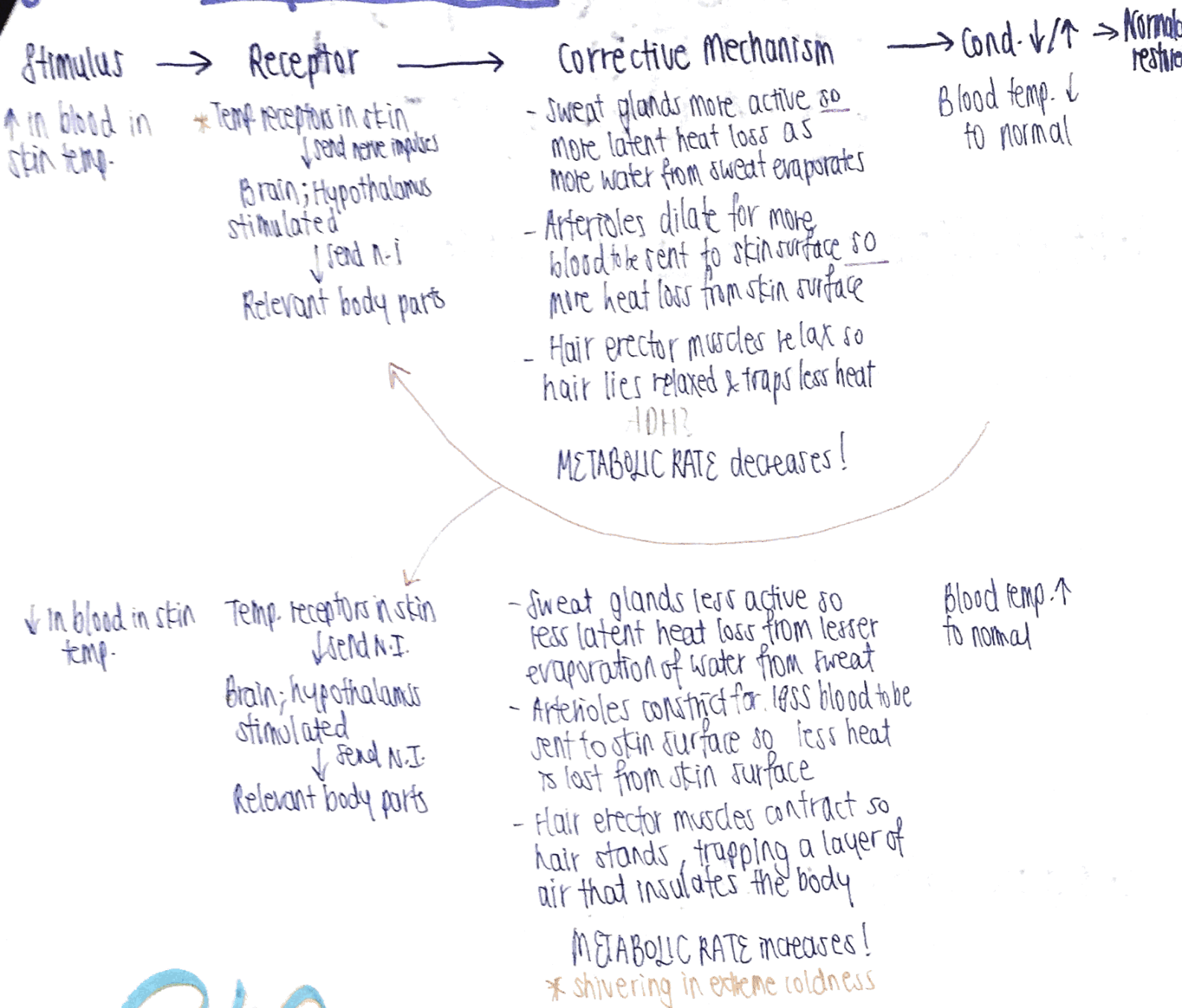
If blood glu. conc. rises sharply above normal, homeostatic control fails to happen ...

- Water pot. of blood plasma ↓ → No ADH to absorb/conserv. H₂O → Blood cells shrink/dehydrated

2. Blood water potential



Body Temperature



~SKIN~

EPIDERMIS | cells here undergo cell div.

- ① Stratum corneum / outer cornified layer (dead, dry, flat, horny)
 - deposition of keratin, but cells continuously rubbed off & replaced by new cells beneath
 - #1 Water-resistant (uncontrolled H₂O loss by evaporation prevented)
 - #2 Prevents mechanical injury (protective layer)
- ② Granular layer
 - living cells move upwards, become dry & horny
 - gives rise to cornified layer

③ Innermost Malpighian Layer

- Pigmented living cells
 - ↳ Gives colour & protects against UV rays
- New cells pushed outwards, changing shape & structure \Rightarrow CORN

DERMIS

① Blood vessels

- Arterioles carrying blood to numerous blood cap. by vasomotor nerves
- * Helps regulate body temp.!
- Reflex
vasodilation vasoconstriction

② Hair

- Embedded in dermis, produced by epidermis
- Hair grows inside hair follicle (Malpighian layer of epi. sinks into dermis \Rightarrow hollow tube)
- Hair papilla at base of hair follicle (blood cap. & nerves)
 - ↳ covered w/ epi. cells that constantly divide & push new cells \uparrow
- New cells die & harden \Rightarrow HAIR!
- Hair erector muscle attached to hair follicle

③ Sebaceous glands

- Derived from epi., open into hair follicles & secrete sebum:
 - ↳ Lubricate hair
 - ↳ keep skin soft & smooth
 - ↳ Antiseptic
 - ↳ Dehydration

④ Sweat glands (coiled tube)

- Surr. by blood cap. as sweat is excreted from blood in blood cap.
- Sweat gland \rightarrow duct \rightarrow pore
- Sweat = Water + NaCl + Urea, latent heat of vaporization removed
- * Regulate body temp.!

⑤ sense receptors

- Nerve endings in epi. & dermis
- Pain Pressure Temp. EXTERNAL ENV.

SUBCUTANEOUS LAYER (adipose tissue)

- Store fats for insulation

HEAT

Produced by metabolic activities (tissue respiration)
Gained by radiation from sun
Distributed by blood circulation

DEATH by overheating

Lost thru: evaporation of sweat, faeces, urine, exhalation, skin by convection, rad., conduction