

GROOVIN' ON THE NEPHRON LINE: Track 10

This song follows filtrate on its journey through a nephron to excretion. Notice that the vocal is low while passing through the descending loop of Henle and goes high again on the ascending loop. Note also that the reverb or wavery / distant quality of the vocal intensifies as the filtrate descends through the loop of Henle mirroring the increase in solute concentration as filtrate travels down the descending loop. Follow the lyrics as they trace the path of filtrate through the nephron.

It's a wild ride, A rollercoaster stride
Down and up, To pee in the cup
Out ammonia waste
But rich nutrient baste
Is reabsorbed on the nephron line

Glomerulus has slits
Proteins won't fit
Precious proteins move,
Efferent they groove

All else continues
In pCT to pay dues
Grooving on the
nephron line

Nutrients, salts exit
Body needs it, gets it
Solute concentration
decreases
Water follows the flow
Then more solutes go
On the Proximal CT
line

"You know the majority of reabsorption takes place on the proximal CT line"

Survivors tumble
A descending loop stumble
"Water move out!"
Osmotic gradient shouts
Solute condense
No, they can't cross the fence
Of the Descending Loop of
Henle Line

"Solute concentration increases as water leaves but solutes can't leave the descending loop"

Hit loop's bottom, Want solutes – got em

"If the body needs the Na^+ and Cl^- it can actively pump it out of the ascending loop"

Ascending loop wall's a fort, Way out
active transport
Sodium and chlorine, Pumped out using
ATP
On the Ascending Loop of Henle Line

DCT takes toxins
Acids, drugs and ions
Aldosterone
Makes Na^+ phone home
Hormones cause absorption
Calcium / sodium extortion
On the Distal CT line

"Aldosterone increases Na^+ permeability while ADH increases reabsorption of water in the collecting duct"

Still reabsorbing
Aldosterone performing
Pump saves Na^+ fate
Urea & bicarbonate
Reabsorb per gradient
Last place to vent
On the Collecting Duct Line

All right now y'all, we're
gonna go through the
whole trip:
Glomerulus, PCT,
Descending Loop,
Ascending Loop, DCT,
Collecting Duct,
Papillary Duct, Papillae,
Minor Calyx,
Major Calyx, Renal pelvis,
ureter – Then you go
to the bladder
Through the urethra
then you're free!