SCHEMATIC ATLAS

DEVELOPING WHITE MATTER OF THE HUMAN BRAIN

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EARLY HUMAN CEREBRUM

1st column- developing axonal pathways

2st column- changes in laminar and modular microstructure

3rd column-intensity of neurogenetic events

4th column- connectivity status



MIDFETAL PERIOD

- 1st column- developing axonal pathways
- $2^{\mbox{\scriptsize st}}$ column- changes in laminar and modular microstructure
- 3^{rd} column-intensity of neurogenetic events
- 4th column- connectivity status



"EARLY PRETERM" PERIOD

- 1st column- developing axonal pathways
- $2^{\mbox{\scriptsize st}}$ column- changes in laminar and modular microstructure
- 3^{rd} column-intensity of neurogenetic events
- 4th column- connectivity status



"LATE PRETERM" PERIOD

- 1st column- developing axonal pathways
- $2^{\mbox{\scriptsize st}}$ column- changes in laminar and modular microstructure
- 3^{rd} column-intensity of neurogenetic events
- 4th column- connectivity status



NEWBORN BRAIN (TERM-AGE)

- 1st column- developing axonal pathways
- $2^{\mbox{\scriptsize st}}$ column- changes in laminar and modular microstructure
- 3^{rd} column-intensity of neurogenetic events
- 4th column- connectivity status



1 YEAR OLD BRAIN

 \boldsymbol{I}^{st} column- commissural, projection and associative pathways

- $2^{\ensuremath{\text{st}}\xspace}$ column- changes in laminar and modular microstructure
- 3^{rd} column-intensity of neurogenetic events
- 4th column- connectivity status



Please note that some pathways are myelinated (yellow colour around axon) and that layer III neurons did not reach adult size ("dormant" period).

2 YEARS OLD BRAIN

- 1st column- commissural, projection and associative pathways
- $2^{\mbox{\scriptsize st}}$ column- changes in laminar and modular microstructure
- 3^{rd} column-intensity of neurogenetic events
- 4th column- connectivity status



Please note that myelination is progressing (yellow colour around axon) and that layer III pyramids of associative cortex became larger than layer V neurons.