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The following publication should be referenced when using this atlas:

Zhao, T., Liao, X., Fonov, V., Wang, Q., Men, Wei., Wang, Y., Qin, S., Tan, S., Gao, J., Evans, A., Tao, S., Dong, Q., He, Y. (2019) Unbiased age-specific structural brain atlases for Chinese pediatric population. NeuroImage. DOI: https://doi.org/10.1016/j.neuroimage.2019.01.006

More templates will come up in the later version. For customized templates or any questions, please contact tengdazhao@gmail.com

Descriptions:
chnpd_asym_06.0-07.0_t1w.nii.gz: the asymmetric brain templates at 6 – 7 years old (T1 weighted).
chnpd_asym_head_06.0-12.0_t1w.nii.gz: the asymmetric head templates at 6 – 12 years old (T1 weighted).
chnpd_asym_female_06.0-12.0_t1w.nii.gz: the asymmetric female brain templates at 6 – 12 years old (T1 weighted).
chnpd_sym_06.0-12.0_t1w.nii.gz: the symmetric brain templates at 6 – 12 years old (T1 weighted).

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CHN-PD Atlas (6-12 years) Version 1.4

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1) Symmetric templates for six age sub-groups are included in the atlases

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CHN-PD Atlas (6-12 years) Version 1.3

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1) The tissue probability maps of GM, WM and CSF and the T2 weighed templates for the head template, symmetric template, female and male templates are included in the atlases.

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CHN-PD Atlas (6-12 years) Version 1.2

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1) The averaged head template, the symmetric template, and the female/male templates are included in the current atlases.
2) The atlas files were renamed in a recognizable form.

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CHN-PD Atlas (6-12 years) Version 1.1

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1) The tissue probability maps of GM, WM and CSF and the T2 weighed brain templates for

six age sub-groups are included in the atlases.
2) The T2 weighed brain templates are updated by the N4 correction.
3) Some precision losses of the tissue probability maps due to the data format conversion have been fixed.

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CHN-PD Atlas (6-12 years) Version 1.0
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Population information

Brain scans from totally 328 healthy children (175 boys) were collected by a 3.0T Siemens Prisma scanner at Peking University. These participants were divided into the following 6 age groups:
- Year 6.0-7.0: 23 children (9 boys)
- Year 7.0-8.0: 53 children (28 boys)
- Year 8.0-9.0: 99 children (57 boys)
- Year 9.0-10.0: 87 children (45 boys)
- Year 10.0-11.0: 51 children (28 boys)
- Year 11.0-12.0: 34 children (18 boys)

Atlases Construction

We conduct an unbiased hierarchical template generation pipeline proposed by Vladimir Fonov and colleagues (Fonov et al., 2011) which makes our template compatible with the ICBM-152 templates. The details of the construction process can be found in https://doi.org/10.1016/j.neuroimage.2019.01.006

Imaging Protocol

T1-weighted images: repetition time (TR) = 2530 ms, echo time (TE) = 2.98 ms, inversion time (TI) = 1100 ms, flip angle (FA) = 7 °, acquisition matrix = 256 × 224, field of view (FOV) = 256 × 224 mm^2, number of slices = 192, in-plane resolution = 1.0 × 1.0 mm, slice thickness = 1.0 mm, bandwidth (BW) = 240 Hz/Px, scan time = 5 minutes and 58 seconds.
T2-weighted images: 3D T2-SPACE sequence, TR = 3200 ms, TE = 564 ms, acquisition matrix = 320 × 320, FOV = 224 × 224 mm^2, slices = 256, in-plane resolution = 0.7 × 0.7 mm, slice thickness = 0.7 mm, BW = 744 Hz/Px, and scan time = 8 minutes and 24 seconds.