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Data Article

Hand measurement data from human babies at birth, from 26 to 41 weeks estimated gestational age

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ABSTRACT

This article displays measurement data from the hands of human babies, taken at birth. Measurements were made on 25 individuals born pre-term, from 26 to 36 weeks EGA (Estimated Gestational Age), and on 36 individuals born at term, from 37 to 41 weeks EGA. Data were collected in the Neonatal Unit of the CHRU Jeanne de Flandre (University Hospital) in Lille, France, between January and May 2014. Seven kinds of measures were taken with a medical caliper on the hand, palm and digits.

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Specifications table

| | |
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| Subject area | Biology |
| More specific subject area | Biometry |
| Type of data | Table |
| How data was acquired | Medical caliper |

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| | |
|-----------------------|-------------------------------------------------------------------------------|
| Data format | Raw |
| Experimental factors | Measurements were taken directly on hands with a medical caliper. |
| Experimental features | Measurements were taken in the first week of life. |
| Data source location | Neonatology Unit, CHRU Jeanne de Flandre (University Hospital), Lille, France |
| Data accessibility | Data is with this article |

Value of the data

- Measurements taken at different gestational ages contribute to the elaboration of growth chart standards, useful for the assessment of dysmorphology or impaired development [1,5].
- This data can be used as a reference series for comparative anatomy among juvenile primates.
- The variety of measures taken can make this data set suitable to be included in a study of functional morphology or biomechanics.
- Benchmark measures in hand morphometry are potentially useful for industrial applications, contributing to the improvement of gripping performances of pre-term babies items.

1. Data

Two series of measurements taken at birth on the hands of human newborns are displayed: a series from babies born pre-term, from 26 to 36 weeks EGA (Estimated Gestational Age), and a series from babies born at term, from 37 to 41 weeks EGA. Data was collected in the Neonatal Unit of the CHRU Jeanne de Flandre (University Hospital) in Lille, France, from January until May 2014. Seven

Table 1

Measurement series on the hand of 25 human babies born pre-term (26–36 EGA), in mm.

| NAME | Surname | Estimated gestational age | Weight | Sex | W_i | W_t | R_t | L_m | L_p | L_h | W_h |
|------|---------|---------------------------|--------|-----|-------|-------|-------|-------|-------|-------|-------|
| RAH | OUN | 34 | 1580 | M | 6 | 7.67 | 24.97 | 23.39 | 27.85 | 51.24 | 26.93 |
| RAH | KAI | 34 | 2125 | M | 7.85 | 7.64 | 32.01 | 25.13 | 31.64 | 56.77 | 28.73 |
| KER | YOU | 31 | 1100 | M | 5.82 | 6.23 | 25.8 | 20.96 | 29.04 | 50 | 23.57 |
| GIL | THO | 34 | 2005 | M | 6.92 | 8.2 | 35.35 | 23.27 | 31.3 | 54.57 | 27.48 |
| DUF | THE | 36 | 1380 | M | 6.58 | 7.39 | 30.67 | 22.96 | 27.82 | 50.78 | 27.7 |
| EL | AMI | 29 | 1410 | M | 5.89 | 6.66 | 18.75 | 22.9 | 20.34 | 43.27 | 26.42 |
| BUD | ANI | 30 | 1010 | F | 5.07 | 5.75 | 23.07 | 18.1 | 20.66 | 38.76 | 20.41 |
| EL | YUS | 35 | 1920 | M | 6.81 | 7.72 | 28.35 | 23.93 | 30.95 | 54.88 | 29.97 |
| LEC | ALI | 35 | 1200 | F | 7.29 | 7.52 | 25.28 | 22.17 | 26.11 | 48.28 | 25.15 |
| MAN | ANG | 33 | 1500 | M | 6.04 | 7.11 | 28.89 | 22.75 | 29.84 | 52.59 | 25.2 |
| RAI | FOU | 31 | 1300 | M | 5.89 | 6.72 | 17.34 | 22.82 | 33.34 | 45.16 | 23.89 |
| GOU | LOU | 26 | 850 | M | 4.04 | 4.65 | 27.56 | 21.36 | 20.07 | 41.43 | 21.4 |
| SEN | ISA | 29 | 900 | M | 5.04 | 5.7 | 27.25 | 19.7 | 24.47 | 44.17 | 20.55 |
| LEG | EME | 28 | 1060 | F | 6.37 | 7.01 | 22.39 | 20.58 | 24.49 | 45.07 | 24.18 |
| GOU | LOU | 29 | 1000 | M | 6.19 | 6.93 | 27.11 | 20.41 | 23.63 | 44.08 | 20.65 |
| LAB | MAR | 31 | 1640 | M | 7.94 | 8.13 | 29.24 | 26.35 | 22.21 | 48.56 | 24.45 |
| LAB | SUS | 31 | 1650 | F | 6.65 | 7.37 | 29.18 | 26.2 | 21.74 | 47.94 | 25.12 |
| BRO | GEO | 29 | 1600 | M | 8.33 | 8.37 | 23.97 | 22.44 | 25.4 | 47.84 | 25.83 |
| FAR | ADR | 31 | 1650 | F | 8.91 | 8.12 | 27.87 | 24.46 | 25.41 | 49.21 | 26.08 |
| GUS | OCT | 35 | 2160 | F | 6.23 | 7.95 | 34.9 | 25.25 | 30.14 | 55.39 | 28.81 |
| GUS | ANA | 35 | 2400 | M | 6.73 | 8 | 36.55 | 25.83 | 35.4 | 61.23 | 31.85 |
| DEF | SAR | 35 | 2090 | F | 6.53 | 7.3 | 34.02 | 25.95 | 28.67 | 54.62 | 28.2 |
| DUT | MAT | 36 | 2880 | M | 8.43 | 9.75 | 38.77 | 28.03 | 30.41 | 58.44 | 30.08 |
| DEL | ELO | 36 | 2780 | M | 7.75 | 8.67 | 38.57 | 27.39 | 29.87 | 57.26 | 33.26 |
| CRE | STA | 35 | 2630 | M | 7.17 | 8.68 | 32.7 | 26.77 | 31.66 | 58.43 | 29.81 |

Table 2

Measurement series on the hand of 36 human babies born at term (37–41 EGA), in mm.

| NAME | Surname | Estimated gestational age | Weight | Sex | W_i | W_t | R_t | L_m | L_p | L_h | W_h |
|------|---------|---------------------------|--------|-----|-------|-------|-------|-------|-------|-------|-------|
| BRA | CAM | 37 | 3160 | F | 8.1 | 9.12 | 37.43 | 29.43 | 33.38 | 62.81 | 33.73 |
| DEP | LUC | 37 | 2250 | M | 7.38 | 8.06 | 30.94 | 25.96 | 31.47 | 57.43 | 30.83 |
| TRO | NOL | 38 | 2430 | M | 7.49 | 8.34 | 33.54 | 25.2 | 28.63 | 53.83 | 31.28 |
| DAR | LIL | 40 | 3150 | F | 7.52 | 8.16 | 35.32 | 26.89 | 29.66 | 56.55 | 31.98 |
| BAL | LUC | 41 | 3560 | M | 8.67 | 10.41 | 36.27 | 28.85 | 35.5 | 64.35 | 36.31 |
| NIC | MAR | 38 | 2470 | M | 8.12 | 9.9 | 36.32 | 27.78 | 30.21 | 57.99 | 31.08 |
| MAI | FLA | 40 | 3700 | M | 8.78 | 9.46 | 33.88 | 27.02 | 36.64 | 63.66 | 34.95 |
| HEL | AIM | 39 | 3160 | F | 8.53 | 8.64 | 34.08 | 26.13 | 37.87 | 64 | 32.68 |
| LAN | BAP | 37 | 2750 | M | 7.67 | 8.37 | 35.75 | 27.41 | 30.86 | 58.27 | 33.11 |
| DAR | THO | 39 | 3120 | M | 9.74 | 9.96 | 34.43 | 27.04 | 38.09 | 65.13 | 35.24 |
| FON | TOM | 39 | 4280 | M | 8.29 | 9.46 | 42 | 30.82 | 37.39 | 68.21 | 37.62 |
| PAC | GUE | 40 | 3160 | M | 8.64 | 9.63 | 38.06 | 27.53 | 36.08 | 63.61 | 33.33 |
| CAE | ALE | 39 | 3820 | M | 8.35 | 9.27 | 37.06 | 27.57 | 35.19 | 62.76 | 34 |
| BOI | OLI | 39 | 3560 | F | 8.34 | 9.62 | 36.94 | 28.38 | 32.27 | 60.65 | 34 |
| VAC | LOU | 39 | 3160 | M | 10.09 | 9.29 | 34.35 | 29.09 | 33.62 | 62.71 | 33.41 |
| HAJ | WAL | 41 | 3610 | M | 8.1 | 7.36 | 38.91 | 28.54 | 36.05 | 64.59 | 35.02 |
| POU | BAP | 41 | 3560 | M | 8.4 | 9.57 | 37.54 | 29.04 | 34.96 | 64 | 35.53 |
| EL I | INA | 40 | 3410 | F | 7.77 | 9.49 | 35.4 | 30.22 | 35.18 | 65.4 | 33.03 |
| FOU | MAR | 38 | 3700 | M | 9.55 | 9.59 | 38.38 | 31.42 | 36.54 | 67.96 | 34.96 |
| ADD | HOU | 40 | 3720 | M | 9.5 | 9.67 | 38.12 | 31.82 | 27.23 | 59.05 | 35.62 |
| CHA | NOH | 40 | 3730 | F | 8.26 | 9.18 | 42.43 | 28.1 | 36.05 | 64.15 | 34.5 |
| PEC | BAK | 40 | 4550 | M | 8.28 | 9.62 | 45.14 | 31.09 | 38.4 | 69.49 | 39.47 |
| VAD | ANA | 40 | 3490 | F | 7.26 | 8.75 | 38.03 | 27.24 | 35.42 | 62.66 | 35.16 |
| HOU | AUD | 39 | 3120 | F | 7.74 | 10.16 | 36.57 | 29.31 | 33.21 | 62.53 | 37.41 |
| BEN | SER | 41 | 2900 | F | 7.79 | 7.21 | 37.3 | 26.4 | 32.14 | 58.54 | 29.31 |
| MUL | CEL | 40 | 3990 | F | 8.11 | 9.49 | 40.48 | 30.57 | 35.49 | 66.06 | 36.33 |
| CAT | THI | 41 | 3890 | M | 8.06 | 10.08 | 43.55 | 31.42 | 36.46 | 67.88 | 36.4 |
| EST | ILO | 39 | 3060 | F | 8.14 | 8.32 | 36.07 | 28.18 | 35.46 | 63.64 | 32.67 |
| EL | MAI | 39 | 3340 | F | 9.36 | 9.5 | 36.94 | 27.5 | 35.51 | 63.01 | 35.28 |
| SCH | KEN | 39 | 3260 | M | 10.03 | 10.4 | 36.03 | 27.46 | 36.65 | 64.11 | 36.47 |
| LE | EMI | 40 | 3430 | F | 7.87 | 9.39 | 36.03 | 27.46 | 36.65 | 64.11 | 32.87 |
| SAV | LOU | 39 | 3220 | M | 7.24 | 8.03 | 40.7 | 29.81 | 37.53 | 67.34 | 33.81 |
| BEN | IME | 40 | 3450 | M | 8.93 | 8.87 | 34.06 | 30.56 | 36.55 | 64.66 | 34.25 |
| SIB | MAO | 37 | 1580 | F | 6.36 | 6.89 | 28.14 | 20 | 29 | 49 | 25.12 |
| SIB | HOR | 37 | 1635 | M | 5.96 | 7.2 | 27.25 | 20.64 | 23.14 | 43.78 | 25.06 |
| CAL | NOE | 38 | 2310 | M | 6.85 | 8.13 | 32.97 | 25.43 | 33.05 | 58.48 | 30.87 |

measurement criteria were selected, concerning either lengths, widths or ray of the hand, the palm and the digits. They are recorded with the EGA, the sex and the weight of the individuals, regardless of the side – right hand or left hand (Tables 1 and 2).

2. Experimental design, materials and methods

Seven measurements were taken on one hand of each individual with a medical caliper ([2–4]; Figure 3):

1. W_i = width of the second digit (index) measured at the mid phalanx, just above the proximal interphalangeal joint.
2. W_t = width of the first digit (thumb) measured at the middle of the proximal phalanx.
3. R_t = Ray of the first digit (thumb) measured from the proximal end of the hand palm to the distal end of the thumb.
4. L_m = length of the middle digit, measured from the base of the digit.
5. L_p = length of the palm of the hand, measured from the proximal end of the hand to the distal end of the middle finger.

6. L_h = maximal length of the hand, measured from the proximal end of the hand to the distal end of the middle digit.
7. W_h = width of the hand, measured on the palm, just below the joint between the metacarpals and the proximal phalanges.

Measurements were made on the palmar face of the hand, in supination.

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Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.dib.2016.03.089>.

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