## Supplementary data

Table S1. Comparison of the Akaike information criterion and Bayesian information criterion for a LMM (random slope only), a LMM (random slope and random intercept and a LMM with AR(1) correlation structure when fitting growth models for height for the female deletion subgroup.

| Gender | Deletion subgroup, Outcome: Height |  |  |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 4 knots | $(2,5,10,15)$ | 3 knots | $(2,7,15)$ | 2 knots $(5,10)$ |  |
|  |  | AIC | BIC | AIC | BIC | AIC | BIC |
| Female |  | 4876.0 | 4914.5 | 4888.2 | 4921.9 | 5112.5 | 5145.4 |
|  |  | 4488.5 | 4536.6 | 4513.8 | 4557.1 | 4882.9 | 4921.4 |
|  |  | 3746.3 | 3799.2 | 3747.9 | 3796.1 | 3918.8 | 3962.1 |



Figure S1. Comparison of the variograms and residual plots for a LMM (random slope only), a LMM (random slope and random intercept and a LMM with $\operatorname{AR}(1)$ correlation structure when fitting growth models (with 4 knots) for height for the female deletion subgroup.

Table S2. Mean difference in rate of growth across age intervals between individuals with the deletion and non-deletion mechanism of PWS, estimated using linear mixed models with linear splines (adjusted for year of birth), with an interaction term between age and genetic subtype.

| Outcome | Age (years) | Average difference in mean rate of growth (Deletion - Non-deletion) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Estimate | Females [95\% CI] | P-value | Estimate | Males [95\% CI] | P-value |
| $\begin{aligned} & \text { Height } \\ & \text { (cm/year) } \end{aligned}$ | <2 | 0.11 | [-1.09, 1.30] | 0.86 | 1.31 | [-0.24, 2.87] | 0.10 |
|  | 2-5 | 0.40 | [-1.20, 2.01] | 0.62 | -1.27 | [-3.11, 0.58] | 0.18 |
|  | 5-10 | 0.15 | [-0.92, 1.21] | 0.79 | -1.37 | [-2.50, -0.24] | 0.02 |
|  | 10-15 | -0.81 | [-1.82, 0.20] | 0.11 | 2.80 | [1.68, 3.92] | 0.01 |
|  | >15 | 1.04 | [-0.81, 2.89] | 0.27 | 1.90 | [-0.20, 4.01] | 0.08 |
| Weight (kg/year) | <2 | 0.73 | [-0.71, 2.17] | 0.32 | -0.18 | [-2.61, 2.25] | 0.89 |
|  | 2-5 | -0.40 | [-2.18, 1.39] | 0.66 | 0.24 | [-2.03, 2.51] | 0.84 |
|  | 5-10 | 1.07 | [-0.10, 2.24] | 0.07 | -0.23 | [-1.67, 1.21] | 0.76 |
|  | 10-15 | -1.59 | [-2.69, -0.48] | 0.01 | 3.71 | [2.30, 5.12] | $<0.01$ |
|  | $>15$ | -1.83 | [-3.86, 0.21] | 0.08 | 1.30 | [-1.36, 3.96] | 0.34 |
| $\begin{gathered} \text { BMI } \\ \left(\left(\mathrm{kg} / \mathrm{m}^{2}\right) /\right. \\ \text { year }) \end{gathered}$ | <2 | 1.36 | [0.57, 2.15] | $<0.01$ | 1.04 | [-0.14, 2.22] | 0.08 |
|  | 2-5 | -1.07 | [-2.09, -0.05] | 0.04 | -0.57 | [-1.85, 0.70] | 0.38 |
|  | 5-10 | -0.09 | [-0.76, 0.57] | 0.78 | -0.40 | [-1.20, 0.40] | 0.33 |
|  | 10-15 | -0.38 | [-1.00, 0.24] | 0.23 | 0.43 | [-0.36, 1.21] | 0.29 |
|  | >15 | -0.93 | [-2.10, 0.23] | 0.12 | 0.16 | [-1.31, 1.63] | 0.83 |

