Eclair

eGrowth Charts

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Eclair eGrowth Charts replace paper-based recording of growth data and calculations[1].

Paediatricians, physiologists, dieticians, midwives and neonatal nurse specialists capture and record growth data and parameters for babies, children and adolescents. In fact, for some of these clinical teams, every consult throughout the day sees patients being measured and weighed. Monitoring and managing growth so they can guide intervention for a patient's development is their 'core business'.

Traditionally, growth data is handwritten and plotted on WHO standardised paper charts using a 'join-the-dots' approach. If additional clinical growth information is required, for example z-Score or height velocity, these are often calculated manually. While paper-based growth charts can be scanned and uploaded into an electronic medical record, this is an additional time consuming step. Often, as is the case with newborn and maternity care records, these charts are rarely being integrated with the electronic patient record.

Sysmex created the Eclair eGrowth Charts module to make it easier for healthcare providers to create a lifetime, permanent record of growth data for individual patients. This tool can be applied in clinical settings to assist with the monitoring of a range of patient scenarios, for example monitoring pre-term infants, growth hormone managed adolescents, and management of obese and overweight adults.

eGrowth Chart Benefits

Paper-based charts rely on manual plotting and calculations, for example gestational age corrections for pre-term infants, or z-Score calculations[2]. Electronic growth charts created and stored in Eclair's clinical data repository are simple to use and offer a number of benefits over paper-based charts:

Integration with the patient record
Growth charts are stored in Eclair as part of a patient's electronic medical record, contributing to an overall clinical picture.

Accuracy
Eclair automatically plots the points on the chart based on measurement data that has been entered into an electronic form.

No manual calculations required
Eclair calculates and plots BMI and height velocity, and provides gestational age corrects for pre-term infants.

Automatic conversion to z-Scores
Eclair automatically coverts growth values to z-Scores to assist with assessment of outlying measurements.

Easily shared
Charts are easily converted to PDF format for printing so a copy can be provided to patients or emailed to other healthcare providers.

Complete, continuous chart
The eGrowth spreads from ages 24 weeks' gestation to 20 years, making it easier to monitor growth trends over an extended time period.

The patient's record in Eclair includes numerous diagnostic data types from lab results to radiology results and clinical documents. When creating an eGrowth chart, data is entered directly into a clinical form specifically designed with growth measurement fields, and algorithms are automatically applied to the data. Comments can be added, valuable for recording information such as growth hormone medication dosing or NaCI supplementation.

Dynamic Standardised Charts

Similar to the presentation on a paper-based chart, the eGrowth chart automatically plots the entered data on dynamic standardised charts.

- Features of the charts include five separate tabs to switch easily between views of the plotted data:
  - Weight for age
  - Length / height for age
  - Head circumference
  - Body Mass Index (over 24 months only)
  - Height velocity (over 24 months only and when two height values are entered)
- Different coloured charts:
  - Pink for female
  - Blue for male
- Zoom in to study specific areas of the chart
- Click and drag to move the chart around the frame
- Hover over points on the graph to see actual values and any comments
- Click the 'Z' icon to toggle views and access auto-calculated z-Scores
- Calculates and displays gestational and chronological age for pre-term infants (born before 37 weeks) until the age of 24 months.
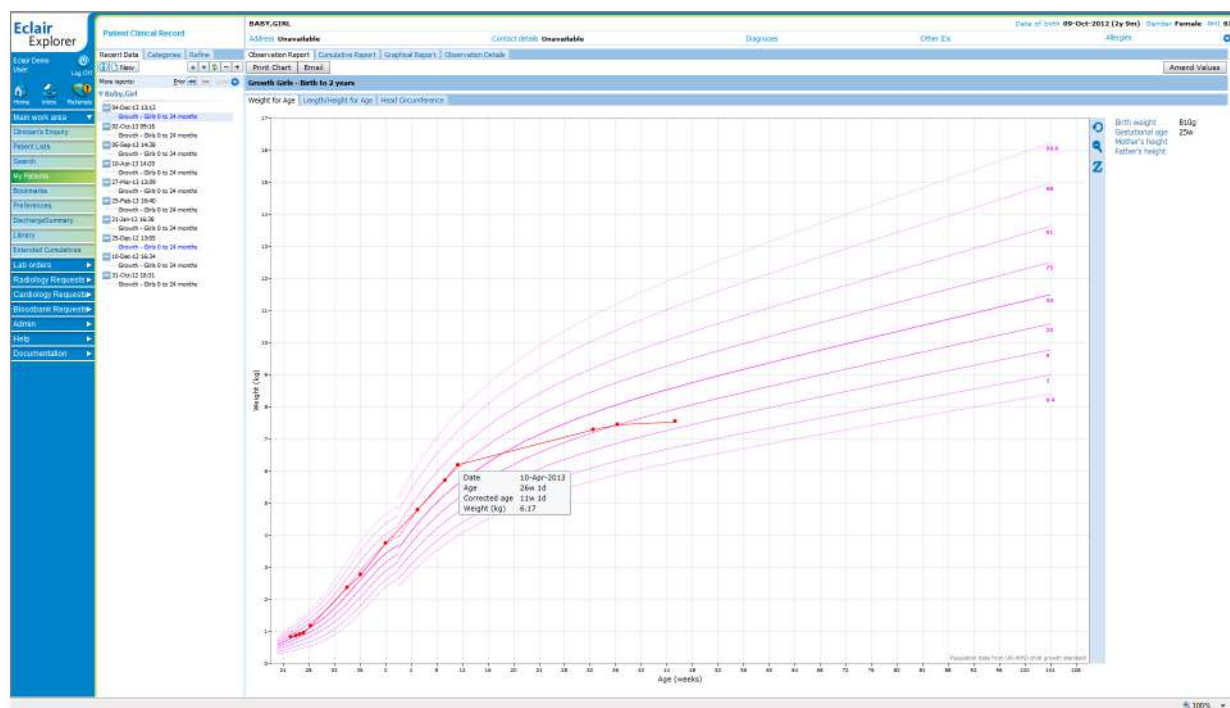
Eclair eGrowth Charts provide clear, accurate graphics that help clinicians visualise all growth related data. They make the information easier for patients and families to understand and offer many benefits over paper-based records.

[1] Sysmex Eclair eGrowth Charts are built on the following standardised charts: 0 - 4 years population data from UK-WHO child growth standard; 4 - 20 years population data from 1990 UK Medical Research Council.

[2] The z-Score is the standard deviation (SD) above or below the mean. A z-Score of 0 is the same as the 50th percentile, ±1.0 plots at the 15th or 85th percentiles respectively, and ±2.0 at roughly the 3rd or 97th percentiles.