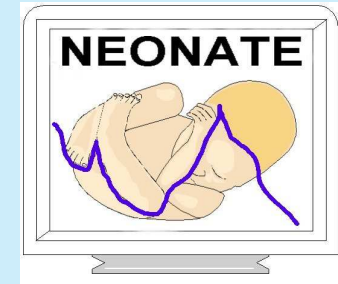
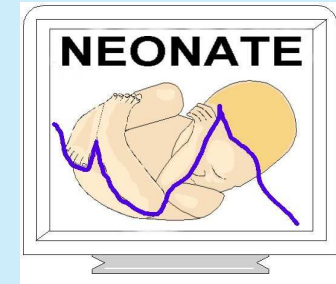


NEONATE



The NEONATE Database

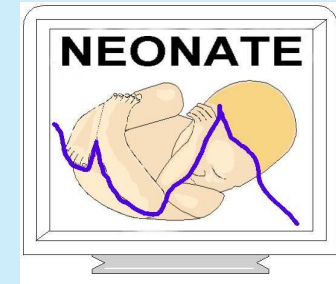
Authors - Aberdeen



- **Department of Computing Science**
 - Jim Hunter
 - Gary Ewing (Research Fellow)*
 - Paul McCue (Research Student)
- **Deptment of Psychology**
 - Robert Logie

* funded by PACCIT (ESRC & EPSRC)

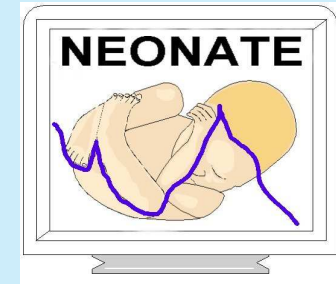
Authors - Edinburgh



- **Simpson Maternity Hospital**
 - Neil McIntosh
 - Yvonne Freer
(Nursing Research Co-ordinator)
 - Lindsey Ferguson (Research Nurse)*

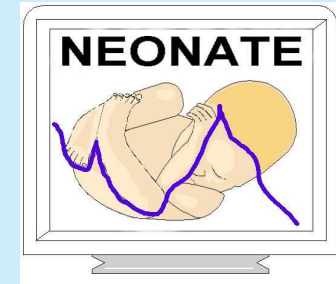
* funded by PACCIT

Overview



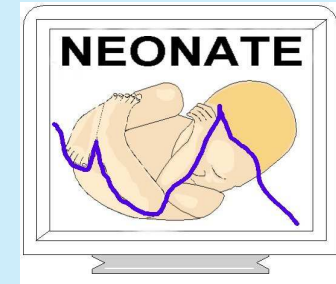
- **Neonatal Intensive Care**
- **Continuous monitoring**
 - Physiological data (1 second sampling)
- **On-ward data collection by research nurse**
 - Numerical data
 - Observations
 - Actions
- **Database**
 - 400 hours, 31 babies, 32,000 individual records
- **Tools**
 - Babywatch, Time Series Workbench

Continuous monitoring



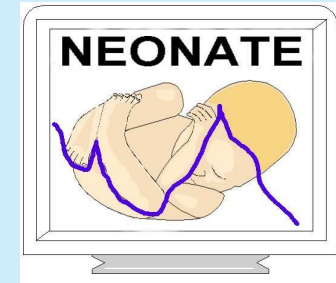
- **Badger system**
 - More than just physiological data
- **Main variables**
 - Heart rate
 - Blood pressures
 - Transcutaneous O₂ and CO₂
 - Saturation O₂
 - Temperatures: peripheral and core

On-ward Collection

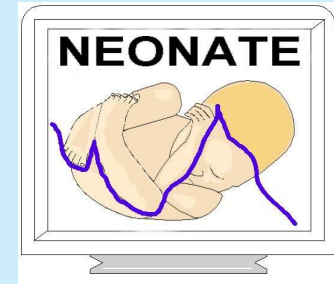


- **Numerical data**
 - Ventilator settings
 - Blood gas
 - Laboratory Results
- **Non-numerical information**
 - Observations of physical state
 - Actions taken by the staff
 - Development of a lexicon
 - Interviews with medical and nursing staff
 - Simplification

Observations



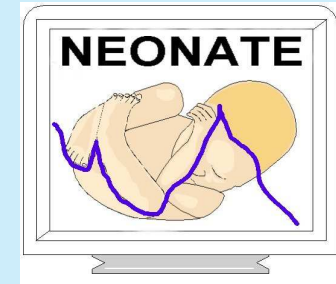
- **Bowels (and urine)**
- **Crying (and facial expression)**
- **Feeding**
- **Movement**
- **Size (including shape and weight)**
- **Skin (including colour)**
 - Pink, poorly perfused, blue, irritated, jaundiced, moist, thin, broken, smooth, good capillary refill ...
- **Sleep (including demeanour)**



Actions

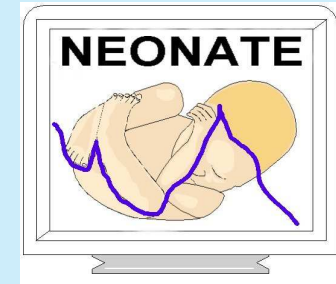
- **Care**
- **Chest drain**
- **Collect data**
- **Therapy**
- **Investigation**
- **Feeding**
- **Lines**
- **Respiration**
- **Safety**
- **Communication**

Summary of Results



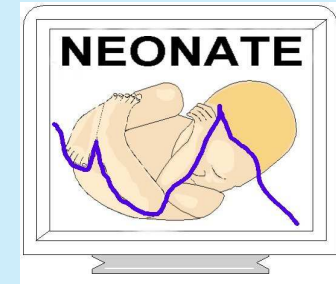
	Individual records
• Actions	19,610
• Observations	1,831
• Settings	4,512
• Laboratory results	1,343
• Blood gas	2,187
• Medication	148
• Comments	2,443
• Observer present	403
• TOTAL	32,477

Database



- **407 hours**
- **31 individual babies**
- **Background information**
 - **sex, gestation, weight at birth, ...**
- **Anonymised**
- **Currently Microsoft Access**
- **XML 'real soon now'**
- **Available**

Tools



- **'Babywatch'**
 - Rapid on-ward data collection
- **'Time Series Workbench' (TSW)**
 - Display
 - Selection
 - Knowledge acquisition
 - Analysis
 - Configurable
- **Available**
- **Demonstration**