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Experts in attempt to cut false alarms in baby units

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THE high number of false alarms in neonatal units which waste valuable medical time could be cut with technology devised by experts in Scotland.

The system, developed at Edinburgh University, aims to establish why the majority of alarms can sound when nothing is clinically wrong.

Neonatal unit alarms are linked to monitoring probes, but they can sound when a baby moves or is handled.

Neil McIntosh, professor of child life and health at the university, who helped devise the system, said: "Alarms going off needlessly are a major problem. Because it happens so often, the worry is that they could go ignored when there is in fact a problem.

"It also creates extra noise in an environment where sound should ideally be kept to a minimum.

"We have devised a system that looks at the monitoring data as a whole – for instance changes to the heart rate and respiratory rate, together as opposed to individually. This is more likely to indicate what causes the alarm to go off and if there is indeed a problem."

The technology would potentially be able to link monitoring machines to a computer that keeps a constant record of any changes.

According to Prof McIntosh, an "X-factor" is then established to understand whether the changes are clinically significant. Problems can also potentially be indicated sooner.

The professor added: "If a baby's heart rate drops to zero suddenly then you know that is because a monitoring wire has come off. It is physically impossible for a baby's heart rate to go instantly to zero – they always gradually slow down.

"The system could also spot problems much earlier, for instance if the carbon dioxide in the blood goes up consistently over 10 minutes this could indicate a lung rupture, which is a risk factor in babies who are ventilated. Such ruptures have a 40% mortality rate among babies, but clinically it can take two hours before staff realise there is a problem."

Prof McIntosh is also a clinical consultant neonatologist at the Simpson Centre for Reproductive Health at Edinburgh Royal Infirmary.

The centre is one of the few units in Britain that link up the neonatal machines to a central computer to keep a continuous record of monitoring data.

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