

BRENDA ROWE PRODUCTIONS LTD.

SAVING THE NEWBORN BRAIN

Post Production Script

VISION	T/C	SOUND	MUSIC	SHOT SOURCE
Cut from black to rear LS 3 figures – greenish light moves along floor to camera	10:00:00:12		10:00:00 M1 Music in	
Cut to rear MCU man L in front of (looks like) large green monitor screen – partial CU shoulder extreme R – slight pull back to rear close MS as figure R moves into shot	10:00:01:15			
Cut to OOF green filtered MS man moving to camera – red light flashes L to R	10:00:02:16			
Cut to CU through circular viewing window – reflection of green numbers changing L – slight pan R	10:00:03:07			
Cut to rear MCU man in white coat in front of (looks like) large green monitor screen – slight zoom in	10:00:04:06			
Cut to low angle MCU 3 men looking down to camera – white lines across top and bottom of shot move towards each other	10:00:05:10			
Cut to BCU profile lower half of face up R – bends down L – OOF CU second face in background facing L	10:00:07:05			
Cut to BCU face – eye and nose IV only – facing camera	10:00:09:08			
Cut to CU surface moving green liquid	10:00:10:16			
Cut to CU man’s face looking down R front	10:00:11:01			
Cut to BCU profile man facing L – OOF CU second face in background	10:00:12:03			

facing L – turns to camera

Cut to CU man looking down R front – 10:00:13:09
turns head R

Cut to CU hands pushing down R into 10:00:13:24
white rubber gloves

Cut to MCU man extreme R facing 10:00:15:06
camera – partial CU head of 2nd man
down L – man R lifts white framed
circular magnifying glass up IV R and
holds in front of face

Cut to BCU eyes through magnifying 10:00:16:07
glass

Cut to green on green caption – reads: 10:00:16:23
the Edge

Start to flash caption out to white on 10:00:18:16
green

Cut to CU 3 men looking down L – 10:00:19:00
shot flashed white down L

Flash to white 10:00:20:09

Start to fade up CU crying baby with 10:00:20:14
tube in nose

Cut to MCU Dr. Thoresen R facing L 10:00:25:02
front

10:00:25

Dr. Thoresen IV:

If you burn your hand and you put
it in cold water, you can actually
stop the development of the
damage just by being cold enough
for long enough and doing it soon
enough, then – why can't you cool
a – an injured brain? (10:00:38)

Cut to CU sleeping baby lying on side 10:00:39:00
facing R – tubes in mouth – green/blue
patch on head

Cut to MCU Professor John Wyatt L 10:00:41:05
facing R front

10:00:41

Prof. John Wyatt IV:

What we do know is that just
reducing brain temperature by
literally three or four degrees
centigrade can make a huge

difference. (10:00:47)

Cut to low CU sleeping baby – blue plastic tubes R inserted in nose – blue cooling cap on head 10:00:48:07

Cut to MCU Professor Andrew Whitelaw R facing L front 10:00:50:09

10:00:50

Prof. Andrew Whitelaw IV:

It's a treatment but not a cure at the moment and we're going for a cure. (10:00:54)

Cut to CU sleeping baby – tube in mouth - head on pink patterned cover facing down R 10:00:54:06

Cut to MCU Professor David Edwards L facing R front 10:00:56:07

10:00:56

Prof. David Edwards IV:

If this treatment works, then it would therefore be logical to think it would do – a consid – considerable amount of good in the Third World. (10:01:03)

Cut to BCU baby crying 10:01:03:23

Start to mix through to low angle MCU dark haired woman wearing glasses looking L – turns head to look down L – pan down L to MCU baby in cot sucking dummy – hand in top strokes top of baby's head 10:01:06:01

10:01:08

Narrator:

Every year, more than a thousand babies in Britain and many more ...

Start to mix through to slow zoom into CU baby wearing blue cooling cap - tubes in mouth and nose – lying on back head turned to camera 10:01:11:10

... in the developing world, suffer brain damage due ...

Start to mix through to MCU baby – hand in from top L stroking baby's head – hand down L holds dark coloured tube 10:01:14:10

... to either a lack of oxygen at birth, or in the case of premature babies, ...

Start to mix through to BCU adult hand holding baby's hand and stroking with thumb 10:01:18:15

... a brain haemorrhage, both leading to ...

Start to mix through to CU sleeping baby – head turned to L – hands clasped in front of face 10:01:21:05

... sever disabilities. ...

Start to mix through to zoom into BCU baby looking up at camera – turns head away to look up L – freeze frame on baby’s face	10:01:24:15	... But pioneering ...	
Start to fade up caption over – reads: SAVING the NEWBORN BRAIN	10:01:32:13	... work being undertaken by doctors mainly in Britain, offers the first real hope to these babies.(10:01:31)	M1 Music out 10:01:36
Caption and freeze frame fade out to black	10:01:37:14		
Start beige filtered sequence:			
Cut to fast tracking shot R along corridor passing open door – and 4 windows of equipment room	10:01:38:09		
Cut to low CU surgically gloved hand lifts up OOV – dark shape down R	10:01:40:24	10:01:41 Simon Stockham VO: When the baby was delivered ...	
Cut to BCU profile top part of face – facing R	10:01:42:18		
Start to mix through to superimpose light green trace moving R to L –	10:01:42:19	... it was o-overwhelming joy, you know - ...	
Cut to BCU eyes – blue graph superimposed moving L to R	10:01:44:21	... but then I saw something ...	
Cut to fast tracking shot L down corridor passing 4 windows of equipment room and open doorways – people in room beyond – blue graph superimposed on shot	10:01:46:09	... was wrong. I knew it wasn’t right all these people ...	
Cut to CU monitoring equipment – zoom in OOF – blue graph superimposed on shot End beige filtered sequence	10:01:48:20	... rushing in I knew ...	
Cut to low angle CU nurse looking down L – fast pan round L passing 2 nd nurse to low angle CU 3 rd . nurse looking down R – slight pull back to 2 shot as she looks up R and shakes head	10:01:49:14	... obviously there was – there was something wrong ...	
Cut to CU Simon Stockham L facing R front	10:01:52:00	Simon Stockham IV: ... you know, I was just praying that everything was going to turn	

out OK. (10:01:55)

Cut to fast pan up L from bottom of bed to CU monitor showing output signals – jerky movements over monitor	10:01:55:20	10:01:55 Jeannette Stockham VO: It was the last couple of seconds ...
Cut to R pan CU signal moving R across screen	10:01:58:22	... really that the problem started. ...
Cut to CU Jeanette Stockham facing L front	10:02:01:02	Jeannette Stockham IV: ... There seemed ...
Start to fade up caption – reads: Jeannette Stockham	10:02:01:17	... to be lack of oxygen to the baby in the last couple of seconds ...
Caption out	10:02:05:16	... of the birth. (10:02:06)
Cut to CU Simon facing R front	10:02:06:16	10:01:06 Simon Stockham IV: I heard them ...
Start to fade up caption – reads: Simon Stockham	10:02:07:14	... sort of say that they needed to – you know – have some intern in for Katie ...
Caption out	10:02:11:13	... because – you know – her condition had deteriorated. (10:02:15)
Cut to b/w low MCU hands moving baby’s legs – white blanket in foreground	10:02:15:13	10:02:16 Jeannette Stockham VO: Dr. Thoresen came into the delivery ...
Cut to CCU 2 b/w stills – cross section scans of brain	10:02:18:08	... suite and ...
Shots start to move OOV L – pull back to MCU side and back view scan stills of head	10:02:19:13	... started explaining ...
Cut to CU profile head scan	10:02:20:04	... that there was something wrong with her brain, ...
Cut to CU Jeannette facing L front	10:02:22:02	Jeannette Stockham IV: ... um and she mentioned that there was this trial being done here, and we needed to sign up to it um there an then because – er because there’s a – I think it’s six –

six hours – it had to be started, and it was co – coming to the – the end of those six hours. (10:02:41)

Cut to low angle CU hook equipment CR – fluid bag lifted IV from bottom L and hooked on equipment – hands down OOV – pan down bag to drip monitor	10:02:41:12		10:02:41 M2 Music in
Cut to WA Clifton across bridge over river – suspension bridge in background L	10:02:49:05	10:02:49 Narrator: Bristol in the west of England is at the forefront of a medical trial involving London, New Zealand and North ...	
Cut to WA city from top of hill – pan L to exterior Saint Michaels hospital	10:02:55:16	... and North America. The trial involves cooling the heads of newborn babies with brain damage. ...	M2 Music out 10:03:00
Cut to back tracking MS Dr. Marianne Thoresen walking along corridor to camera – turns R OOV through door – hold on doorway	10:03:02:18	... Dr. Marianne Thoresen, born in Norway, is head cooling Katie, the thirteenth baby in the trial. They need two hundred and thirty ...	
Cut to close MS sleeping baby in blue cooling cap – tubes in mouth and nose - head to R facing camera – person IV L – hands turn baby’s head and check tubes – zoom in to MCU as hands check blue cap	10:03:12:07	... babies to take part before they can determine the success rate. It’s a randomised trial, so half will be head cooled, half will not. (10:03:21)	
		10:03:25 Dr. Thoresen VO: When she was six hours ...	
Cut to CU temperature readout – changes from 33.8 to 33.5	10:03:26:13	... old er – we started to cool her down to rectal temperature 33.5. ...	
Cut to MS Dr. Thoresen facing camera across baby in cot – surrounded with equipment	10:03:33:16	Dr. Thoresen IV: Normal ...	
Start to fade up caption – reads: Dr. Marianne Thoresen Consultant	10:03:34:01	... temperature for babies is of course 37, and the way we do that is ...	
Caption out	10:03:38:00	... by cooling er her head er down using a cooling ...	

Cut to BCU portion of blue cooling cap – fingers IV top and L lift cap to indicate - replaces – hands OOV top and L	10:03:41:06	Dr. Thoresen OOV: ... cap, and you can just see the edge of the plastic cap here where we flow cold water all the time around the head of the baby. So that is enough to cool the whole baby down and this treatment goes on for seventy- two hours and then she will be re-warmed to normal temperature. ...	
Cut to CU 2 clear plastic tubes curling in from R and down - tube to CR with pink band – tube CL with blue band – CU hand IV L indicates and moves tubes	10:04:03:07	... These are the water tubes that takes the water in and out of the cap, so the cold water comes in through the – blue one here and it co – goes out through this cap to be cooled again through the machine. From ...	
Cut to BCU sleeping baby with tubes in nose and mouth	10:04:17:08	... the skin on her head we are recording the EEG um – the brain ...	
Cut to MS Dr. Thoresen facing R front across cot – looking down R at baby – hand near baby’s head R – zoom in to MCU as she picks up tubes and holds up to camera – pan R passed cooling equipment to blue trace machine showing brainwave activity	10:04:22:08	Dr. Thoresen IV: ... wave or the brain activity, um the signals through ... Dr. Thoresen OOV ... three leads, which you can see here and which um goes on to the machine making the blue trace which is the continuous brainwave activity. ...	
Cut to CU blue trace machine – stylus moves across paper	10:04:36:21	... Fortunately the trace now looks quite good. ...	
Cut to MS Dr. Thoresen facing R front across cot	10:04:43:00	Dr. Thoresen IV: ... It’s difficult to say anything about the future at this early stage. There are lots of good signs for her, but I think one has to be guarded at this early stage. (10:04:54)	10:04:54 M3 Music in
Cut to WA exterior University College Hospital, London – traffic passing in front of camera	10:04:54:23	10:04:57 Narrator: A hundred miles away at the University College Hospital in	

		London, ...	
Cut to MCU Professor John Wyatt R facing computer monitor L – 2 people in background facing R	10:05:00:22	... Professor John Wyatt coordinates the trial, called the Olympic trial, after its ...	
Cut to close MS computer screen CL over MCU shoulder extreme R – scan stills being moved around screen	10:05:06:15	... American sponsors (10:05:07)	M3 Music out
		10:05:08	10:05:08
		Professor John Wyatt VO:	
		The idea of cooling babies after birth has actually been around ...	
Cut to MCU Professor John Wyatt CL facing R front	10:05:11:03	... for hundreds of years ...	
Start to fade up caption – reads: Professor John Wyatt Neonatal Paediatrics	10:05:11:16	... and there was an – an old treatment which involved putting babies ...	
Caption out	10:05:15:16	... in ice cold water after birth in order to encourage them to breathe. In the 1950’s there were studies involving er doctors in Scandinavia particularly where they had a specialised cooling bath, they put babies in this ice-cold water, and in fact their results were remarkably good. (10:05:30)	
Cut to CU b/w still page re: ‘Opium, Alcohol, and Inanition’ by James Currie, M.D.F.R.S. – pull back from page and pan up to title ‘MEDICAL REPORTS ON THE EFFECTS OF WATER	10:05:30:23	10:05:32	10:05:31
		Narrator:	M4 Music in
		Cooling was first documented in the late 1600’s, when James Currie, who invented the thermometer, wrote about cooling to treat people with fevers and other ...	
Start to mix through to BCU b/w still line drawing child in tub of water – doctor on stool to L lifts child’s eyelid – pull back to MCU	10:05:41:16	... diseases. Drawings from that time show a child fitting placed in tub of cold water. ...	
Start to mix through to MCU b/w still line drawing man sitting up on bed – woman at other side of bed pouring water from bowl	10:05:47:18	... It was even used to treat syphilis. ...	
Start to mix through to CU pages of	10:05:51:13	... The Russians introduced head	

Russian book being turned L to R		cooling ...	
Start to mix through to L pan across B/W still line drawing man lying on back on table – head over bowl – water spraying on head	10:05:54:13	... for brain injuries. But it was a Swedish doctor, Bjorn ...	M4 Music out 10:05:56
Start to mix through to slow pan up CU page – reads: HYPOTHERMIA AND TRANSFUSION WITH OXYGENATED BLOOD IN THE TREATMENT OF ASPHYXIA NEONATORUM	10:05:58:20	... Westin who introduced the idea of total body cooling in the 1950's to treat babies starved of oxygen during birth. (10:09:07)	
Cut to slow R pan across BCU HYPOTHERMIA title	10:06:08:13	10:06:09 Dr Thoresen VO: I read some old papers from the 1950's and 60's er in particular by Bjorn Westin, a Swedish ...	
Start to mix through to pull back from BCU B/W still line drawing baby on back in bath of water, mouth, nose and umbilical cord above water level	10:06:14:20	... obstetrician. He took newborn infants who were unable to breathe by themself when they were born and actually dumped then into cold water, and in his paper he describes how they all started to breath and the developed normally. ...	
Cut to close MS Dr. Thoresen R facing L front – computer in background L	10:06:29:18	Dr. Thoresen IV: ... I was really inspired by that work and wanted to take it up again. ...	
Cut to CU hands typing on keyboard – pull back to close MS Dr. Thoresen R facing computer L	10:06:35:10	Dr. Thoresen VO: ... It's actually normal to be cold um – after a period of too little oxygen, because naturally your metabolism is switched off or - ...	
Cut to CU computer screen – graphs building up and changing	10:06:45:13	... or reduced, so all newborn animals for instance, if they suffer too little oxygen, ...	
Cut to CU Dr. Thoresen R facing L front	10:06:52:22	Dr. Thoresen IV: ... they will cold um naturally. So if we then actively heat them up, that is um – it – it may be damaging actually if we do that um for babies who are very sick at birth. (10:07:06)	

Cut to white – pan up to still MCU baby Reece asleep in cot – head to L	10:07:07:07	10:07:09 Narrator: Reece was Dr. Thoresen’s first baby she body cooled two years ago, before the Olympic trial started. He’d been starved of oxygen at birth and was seriously ill. (10:07:20)	10:07:07 M5 Music in
Cut to CU Dee Barrett L facing R front	10:07:21:16	10:07:21 Dee Barrett IV: There ...	
Start to fade up caption – reads: Dee Barrett	10:07:22:02	... was problems while I was in labour. Um ...	
Caption out	10:07:26:01	... he was being monitored. Um - the midwives were concerned because his pulse rate was dropping. ...	M5 Music out 10:07:26
Cut to 2 shot – close MS Dee seated C with Pete to L – both facing R front across table	10:07:33:23	... Apparently Reece took his first gasp at three minutes um – but failed to breathe spontaneously on his own. ...	
Cut to MCU baby Reece lying on back in cot – head to L	10:07:42:06	... The doctors explained that because he was starved of oxygen, there was a risk of him having brain damage. (10:07:48)	
		10:07:51 Dr. Thoresen VO: He needed full resuscitation, we needed to ...	
Cut to BCU Dr. Thoreson CR facing L front	10:07:53:13	Dr. Thoresen IV: ... compress his chest. Um – he had drugs to stimulate his heart and he had very abnormal movements and when we did this um – um the EEG test, it was a very abnormal and - um – what we call er rather flat pattern he had, so he more than fulfilled the criteria for being entered into the trial. (10:08:17)	
Cut to slight R pan CU filled rubber gloves being placed under baby – slight	10:08:17:13	10:08:20	10:08:17 M6 Music in

zoom in to glove – pan L as more gloves placed under baby’s body moving down to feet

Narrator:

The method of cooling a baby’s body has evolved gradually and there are various methods used. This time Dr. Thoresen improvised with rubber gloves filled with cool water. This was Reece’s bed for seventy two hours. (10:08:34)

M6 Music out

10:08:31

Cut to slow pan down from BCU baby’s knee to feet and on down to filled rubber glove 10:08:37:06

10:08:38

Pete Trapharni VO:

Rubber gloves stuck all round *(laughs)*he looked weird didn’t he?

Dee VO: Yes

Pete VO: And when those started warming up they’d have to go and get some more out of the fridge, and - *(laughs)*...

Cut to CU Pete L facing R front 10:08:48:06

Pete Trapharni IV:

He ...

Start to fade up caption – reads: **Pete Trapharni** 10:08:48:17

... was just – well – his lips were blue. He was shivering ...

Caption out 10:08:52:16

... which ...

Dee OOV: He felt cold to touch didn’t he?

Pete IV: Cold to touch, yeah. ...

Cut to BCU baby’s hand – pan down as hand falls down over nappy 10:08:56:18

Pete VO:

... m-m- I mean we were worried about the ...

Cut to BCU baby’s moving feet with name tag 10:09:00:16

... shivering looked as though he was fitting so that was a bit concerning wasn’t it?

Dee VO: Mmm ...

Cut to CU Pete L facing R front – turns head R – pan R to MCU Dee 10:09:05:01

Pete Trapharni IV:

... He just looked very strange there didn’t he?

Dee OOV: Mmm

Pete IV: And er ...

Pete OOV: ... you just wanted to pick him up and cuddle him didn’t you

Dee IV: Yes ...

Cut to BCU filled rubber gloves over top of baby’s knees – pan R across baby’s body to rubber gloves under upper back 10:09:12:14

Dee VO: ... I wanted to pick him up, I wanted to breastfeed him, I wanted to do all the things that mothers do, and I couldn’t, ...

Cut to CU gloves under baby's bottom – slow pan up R along baby's back with rubber gloves underneath	10:09:21:19	... I couldn't cuddle him. That was the most difficult thing. And I remember at one stage watching him – he'd actually managed to get hold of a – a rubber glove finger ...	
Cut to VBCU baby's face looking up	10:09:36:08	... that was filled with water, and he was sucking on it, and ...	
Cut to 2 shot – close MS Dee seated C with Pete to L – both facing R front across table – Dee using hands	10:09:39:19	Dee IV: ... I thought – he shouldn't be doing that, it should – it should be me that's – that's helping him. ...	
Cut to low MS through end of cot – pan up over end of cot to close MS baby Reece asleep on filled rubber gloves	10:09:45:04	Dee VO: ... Just felt a bit useless sitting there watching him. I felt cheated. But um ...	
Cut to MCU Dee facing R front	10:09:54:23	Dee IV: ...we – you know we were happy to try anything. (10:09:58)	10:09:55 M7 Music in
Cut to slow zoom in to still CU baby Reece asleep in cot, adult hand down L holds his hand	10:09:59:10	10:10:00 Narrator: Two years on and life is very different. (10:10:03)	M7 Music out 10:10:02
Cut to close MS Reece on trike in garden - rolls to camera to CU – turns away L	10:10:03:22		10:10:04 M8 Music in
Cut to close MS Reece kicks ball L to R – pan R to WA house and garden - Reece runs away across grass to house kicking ball	10:10:07:23	10:10:10 Dee VO: Very strong willed, um – very stubborn, very ...	
Cut to close MS Reece rubbing mud off hands – plants in background L	10:10:15:00	... determined. Very determined, if he – if he sets out to do something, he has to complete that task. (10:10:21)	
		10:10:23 Pete VO: He's a little angel ...	
Cut to 2 shot – close MS Dee seated C with Pete to L – both facing R front	10:10:24:15	Pete IV: ... Well he's my little angel, I spoil	

across table

him, his mother says I spoil him
but – um – I’m just o – well we’re
both over the moon with him.

Cut to MS plants against wooden fence 10:10:34:03
– Reece swings IV L to R – pan L and
R to follow action of swing

10:10:36
DeeVO: He’s full of energy
Pete VO: Yeah he’s non-stop
Dee VO: He doesn’t stop and I
think when you’re older parents,
...

Cut to rear close MS Pete – Reece 10:10:42:11
swing IV L and ‘kicks’ Pete’s backside
– swings OOV L – Pete turns and starts
to move L

... it’s exhausting. ...

Cut to WA garden – Reece in swing – 10:10:44:14
Pete runs L to swing and away R again
– slight pans to follow

.... He – he wears us out, but um –
it’s wonderful that he wears us out.
If – if he wasn’t doing all those
active things, he wouldn’t be ...

Cut to close MS Reece swings to 10:10:55:12
camera to MCU – Pete IV extreme R
catches swing – Reece grins to camera

... normal. (10:10:55)

10:10:57
Pete OOV:
I gotcha. (*laughs*) (10:10:58)

M8Music out
10:11:02

Cut to CU Dr. Thoresen R facing L 10:11:04:10
front – microscope in background L

10:11:04
Dr. Thoresen IV:
It’s been wonderful to see him
develop er – it’s amazing um – he
– I just saw him er in clinic er
when he was two years old and –
he’s an absolutely normal two year
old child he is. (10:11:18)

Cut to CU Professor John Wyatt L 10:11:18:23
facing R front

10:11:19
Prof. John Wyatt IV:
What we think is the most
important thing is to get the brain
temperature, the – the temperature
of the brain cells at about thirty
three degrees centigrade, which is
about four degrees below normal
brain temperature. What we don’t
know is what’s the best way of
actually achieving that, and ...

Cut to CU hands on keyboard 10:11:33:14

Prof. John Wyatt VO:

		... we have a number of alternatives, one possibility ...		
Cut to MCU John Wyatt extremer facing computer screen L showing 4 x brain scan displays	10:11:35:18	... is to cool the head and another possibility is to cool the whole body. (10:11:40)		
Cut to WA exterior Hammersmith hospital building at night – lighted windows	10:11:41:06	10:11:43 Narrator: The Hammersmith Hospital in London was one of the ...	10:11:41 M9 Music in	BBC
Cut to MS 3 lighted windows – person moves behind middle window exterior building – night shot	10:11:45:23	... first to body cool a baby. The baby ...		BBC
Cut to MCU Polar Air machine – pan up R to low close MS baby wrapped in plastic blanket – head to camera	10:11:49:16	... was surrounded by a plastic blanket and cooled by blowing air over its body ...		BBC
Cut to MCU woman in green tunic R looking down L – pan down L to baby - blanket being adjusted R	10:11:55:07	... to lower its temperature by four degrees centigrade. Doctors here believe body cooling is the most effective method. (10:12:03)		BBC
Cut to Professor David Edwards L facing R front	10:12:03:22	10:12:04 Prof. David Edwards IV: I think the evidence ...	M9 Music out 10:12:04	
Start to fade up caption – reads: Professor David Edwards Neonatal Medicine	10:12:04:17	... at the moment would suggest that head cooling will only work ...		
Caption out	10:12:08:17	... if you cool the entire body. I would base that statement on some experimental work which would suggest that to be the case, and also computer simulations of the – heat flux across the brain. ...		
Cut to slight pan R along plastic blanket - MCU hands opening blanket R – hand inside to feel baby’s limbs	10:12:21:03	Prof. David Edwards VO: ... I think that you actually have to cool the whole body in some form or other ...		
Cut to rear MS Professor Edwards L - leaning R across cot adjusting plastic blanket	10:12:25:09	... in order to cool the centre of the brain. (10:12:27)		BBC
		10:12:28 Narrator:		

The machine used at the Hammersmith ...

Cut to low angle MCU Professor Edwards R bending down R 10:12:30:02 ... resembled a hair dryer and ... BBC

Cut to high angle MCU hands inside plastic blanket taking baby's temperature – pan up as thermometer removed to MCU profile Professor Edwards L facing R looking down 10:12:31:17 ... that's one advantage of body cooling, low tech and inexpensive. In time it could be ... BBC

Cut to MCU sleeping baby inside plastic blanket – head to R 10:12:37:19 ... adapted for the developing world. (10:12:39) BBC

10:12:40

Prof. David Edwards VO:

The one thing that body cooling has going for it is simplicity. ...

Cut to CU sleeping baby inside plastic blanket – tube in nose 10:12:44:07 ... The intrinsic physics involved are simple. They're – they're – they're not complicated. ... BBC

Cut to MCU Professor Edwards L facing R front 10:12:49:19 **Prof. David Edwards IV:**
... If you can find a way of controlling temperature within fine degrees um – then you don't need complicated drugs, um – the equipment could in theory be quite simple and it could be applied by relatively unskilled people, so in theory it could be a very useful thing in the Third World, where the problem of birth asphyxia seems to have a higher incidence than it dos in Europe. (10:13:10)

Cut to OOF BCU red LED readout's 10:13:11:08

Cut to MS Jeannette and Simon CL – Dr. Thoresen CR – around cot L – through glass 10:13:14:18 10:13:14
Narrator:
Back in Bristol, it's almost time for the cooling cap to be taken away from Katie, and for ...

Cut to BCU baby Katy – tubes in nose and mouth – eyes slightly open 10:13:20:20 ... her parents to hold her for the first time. (10:13:23)

10:13:24

Dr. Thoresen OOV:

You know it's just er one hour left of the cooling, so we will now ...

Cut to close MS Dr. Thoresen L leaning on end of cot containing baby Katie - facing Jeannette R – rear MCU Simon C 10:13:28:16

Dr. Thoresen IV:
... have just half the amount of drugs that's makes her quieter
Jeanette OOV: Yeah
Dr. Thoresen IV: And when we stop the cooling we will – we'll be stopping the drugs ...

Cut to CU baby Katie's hand holding on to wires R 10:13:36:09

Dr. Thoresen OOV:
... It's been difficult not to be able to ...

Cut to 2 shot – CU Simon in foreground looking up L – close MS Jeannette in background looking L front 10:13:38:17

... hold her?
Jeannette IV:
It has yes, and um - ...

Cut to CU baby Katie wearing blue cooling cap – head to L – pull back to MCU 10:13:42:07

Jeannette OOV:
... I think what upset me the first morning was I saw like the newborn baby clothes I'd bought her, and I thought ...

Cut to 2 shot – CU Simon in foreground looking L – close MS Jeannette in background looking L front 10:13:48:02

Jeannette IV:
... I just want - ??? put her – put her in something, you know one of the – one of the ba -

Cut to CU Dr. Thoresen L looking down R – turns head away 10:13:52:08

Jeannette OOV:
... one of the baby grows, you know, that – that's ...

Cut to low MS baby Katie in cot – rear MCU Simon R – hand over edge of cot – zoom in to CU Simon's finger stroking baby's arm 10:13:55:06

... what upset me the first morning that – but after that I was OK wasn't I?
Simon & Dr. Thoresen: Yes. (10:13:59)

Cut to CU Professor John Wyatt L facing R front 10:14:01:09

10:14:01
Prof. John Wyatt IV:
There are a number of theories around as to why cooling actually seems to protect the brain, one obvious one is that it reduces the metabolic rate of the brain, but in fact that's probably not the whole answer, er and it be that it has much more complex effects in

terms of altering the balance between c-cell signalling or the ways that cells talk to each other, and also the balance between the destroying processes inside the brain and the repairing processes inside the brain. (10:14:26)

Cut to LS along lab bench – highish angle close MS Dr. Mehmet R facing L working at bench 10:14:26:19

10:14:26

Narrator:

Dr. Huseyin Mehmet’s team at the Hammersmith Hospital in London has conducted ground breaking research into what happens to babies brain cells when starved of oxygen. (10:14:38)

10:14:39

Dr. Mehmet VO:

During brain ...

Cut to CU hands holding syringe – pan up R to CU Dr. Mehmet R facing L 10:14:40:06

... injury, a lot of cells are damaged and die. The problem is that the brain has rather limited powers of regeneration, so once you lose brain cells they ...

Cut to CU syringe inserted in test tube held in rubber gloved hands – syringe removed – test tube capped hands lifted OOV R and down C 10:14:51:11

... largely remain irreplaceable. (10:14:53)

Cut to slow zoom in to graphic image single cell as cell bursts 10:14:54:22

10:14:55

Narrator:

There are two ways cells die. The first is called necrosis, which is a form of cell murder. The cell bursts and that’s the end of it. ...

10:14:54

M10 Music in

Cut to slow pull back from graphic image single cell as cell shrinks 10:15:05:13

... Or a cell dies by apoptosis, which is a form of cell suicide. Cells shrink and then are eaten up by their neighbours. (10:15:14)

Cut to CU Dr. Huseyin Mehmet R facing L front 10:15:15:08

10:15:15

Dr. Mehmet IV:

The time it ...

M10 Music out

10:15:15

Start to fade up caption – reads: **Dr. Huseyin Mehmet** 10:15:16:04

... takes for a cell to die by apoptosis is very short, ...

Senior Lecturer in Neurobiology

Caption out	10:15:20:03	... but the events that can trigger apoptosis are what linger on after the primary insult, and this is what gives us the opportunity between the primary event and the delayed cell death that goes on afterwards to intervene. (10:15:33)	
Cut to computer graphic of graph building to show damage to brain over 72 hour period – pink graph line represents damage - white line represent effects of cooling	10:15:33:14	10:15:34 Narrator: Research has shown that damage to the brain can continue for seventy two hours or more after the initial insult. But if the brain is cooled within hours of the initial injury, the process of cell death can be halted, giving doctors more time to intervene with drugs. (10:15:50)	10:14:33 M11 Music in
Start to mix through to OOF lights – pull focus on CU selection of glass medicine bottles	10:15:51:00	10:15:52 Dr. Mehmet VO: If you can manage to block apoptosis in newborn infants, where the brain is not fully developed, this can be the - ...	M11 Music out 10:15:58
Cut to CU Dr. Mehmet R facing L front	10:15:59:09	Dr. Mehmet IV: ... the difference between having an adult that's very severely handicapped and having one that perhaps has minor motor or learning difficulties, and so the social implications of this are huge. (10:16:09)	10:16:07 M12 Music in
Start to mix through to BCU clear glass medicine bottle – zoom in to OOF	10:16:10:02		
Start to mix through to MS Saint Michael's Hospital sign on wall – map of hospital beneath - light reflects off wall L	10:16:14:11	10:16:17 Narrator: The seventy two hours are up and Katie's cap is ...	
Cut to MCU baby Katie in cot wired up with cooling cap – hands L start to	10:16:20:22	... coming off. (10: 16:21)	

remove cap - pan up R to MCU Jeannette bending down L over cot		10:16:34 <i>(Actuality sound)</i> Dr. Thoresen OOV: Let me take the cap off. Can you feel it. Not that cold. Jeannette: No, it just felt cold considering the heat of this room Dr; Thoresen: Yeah ...	M12 Music out 10:16:31
Cut to CU Jeannette up R facing down L	10:16:45:17		
Cut to close MS Katie from over end of cot - nurse R leaning L over top of shot removes tubes hand L start to lift Katie out of cot – pan L as Dr. Thoresen lifts Katie onto Jeannette’s lap L and wraps blanket around Katie – ventilation tube reinserted – slight tracking shot R and zoom in to MCU Jeannette holding Katie	10:16:48:04	... hello Jeannette IV: Hello my precious – hello my precious Dr: Thoresen OOV: ??? need the ventilator now is actually because we have given her some drugs, so she’s a bit more quiet. ...	
Cut to MCU Katie in Jeannette’s arms	10:17:35:19	Jeannette OOV: ... Are you going got open your eyes darling? ...	
Cut to high angle MCU Jeannette holding Katie – Jeanette turns head to look up L smiling – pull back to close MS as Simon leans IV top L to Katie	10:17:39:08	Jeannette IV: ... Look who’s come to see you. ...	
Cut to MCU Katie – Simon’s hand L strokes her hand with his finger	10:17:47:22	Dr. Thoresen OOV: ... What’s going to happen now we – we rewarm her very slowly ... Simon OOV: Yeah Dr. Thoresen: ... and after six hours she will then usually reach ...	
Cut to MCU Jeannette looking down L – pan L to 2 shot – Simon and Jeannette – both turn to look down R	10:17:55:11	... normal temperature ... Simon OOV: Right Dr. Thoresen OOV: ... and I expect her to be able to breathe by tomorrow ...	
Cut to close MS Simon up L - Jeanette C holding Katie – both looking down R at Katie – Dr. Thoresen down L	10:18:01:19	... So now and from tomorrow onwards the – you can start giving her a little m – breast milk from you Jeannette IV: From – from	

tomorrow?

Dr. Thoresen OOV: Yeah

Jeannette IV: Yeah. You're going to like that, aren't you?

Dr. Thoresen OOV: and then ...

Cut to BCU Katie's fingers holding adult finger – blue ventilation tube extreme R

10:18:13:17

... we just have to wait and see how she recovers.

Jeannette OOV: Yeah. (10:18:17)

10:18:18

M13 Music in

Cut to high angle CU cat playing on wooden chair – pan up to high angle close MS Dr. Thoresen L sitting at table – bowl of cornflakes in front of her

10:18:21:01

10:18:23

Narrator:

Dr. Thoresen is married to Professor ...

Cut to high WA across kitchen table – close MS rear Dr. Thoresen down L – Professor Andrew Whitelaw facing her - stands – lifts jacket off chair R and moves R round kitchen through door and OOV R – pan round R to follow

10:18:26:02

... Andrew Whitelaw, who's also involved in the cooling trial. But Professor Whitelaw is conducting his own treatment, the first in the world for premature babies who suffer brain haemorrhaging at birth. ...

M13 Music out

10:18:40

Cut to CU baby Kelsey Ann with tube in mouth lying on green cloths – head to L – head being swabbed top L

10:18:41:05

... Kelsey Anne weighed just over twelve hundred grams when she and her ...

Cut to WA operating theatre – 2 surgeons seated at operating table L – 3rd moves lighting unit around overhead

10:18:45:10

... twin sister were born at twenty nine weeks. She's ...

Cut to MCU Professor Whitelaw L bending forward R over operating table performing operation

10:18:49:16

... Professor Whitelaw's seventeenth baby to undergo this new experimental treatment of ...

Cut to CU Prof. Whitelaw's hands with surgical implements

10:18:55:10

... brain washing. Doctors are inserting two ...

Cut to close MS Prof. Whitelaw L sitting at side of operating table R – 2nd person in background – hands him implements

10:18:58:15

... tubes into Kelsey Anne's brain. One takes a ...

Cut to over shoulder L MCU hands working on patient

10:19:02:10

... clot dissolving liquid into the swollen ventricles ...

Cut to MCU baby Kelsey Ann – head to L – lying on green cloths – tubes in

10:19:05:15

... and the other drains the liquid and debris away. (10:19:08)

mouth and head – pull back up slightly
to hands top L working with tube

Cut to MS Prof. Whitelaw across top of
incubator containing baby Kelsey Ann 10:19:10:05

10:19:10

Prof. Whitelaw IV:

Kelsey ...

Start to fade up caption – reads:
Professor Andrew Whitelaw
Neonatal Medicine 10:19:11:01

... has had bleeding into the
ventricles of the brain as ...

Caption out 10:19:15:00

... a consequence of her – er
premature birth and the
complications involved with a twin
pregnancy, and she is now
developing hydrocephalus, that is
the fluid within the brain is
building ...

Cut to CU baby Kelsey Ann – lying on
side facing camera – head to R 10:19:28:07

... up under pressure and is
beginning to expand both her
brain and her head. (10:19:32)

Cut to computer graphic CU baby's
head showing development of brain
haemorrhage 10:19:34:18

10:19:35

Narrator:

This is a normal baby's brain, with
the ventricles hardly visible, but
when a brain haemorrhage takes
place, the ventricles swell and fill
with blood. If untreated it leads to
brain damage and severe disability.
(10:19:49)

10:19:35

M14 Music in

Cut to MCU 2 computer graphic
images – reversed – showing irrigation
and draining sequence 10:19:49:24

10:19:51

Prof. Whitelaw VO:

What we're doing is – trying to
remove as much of the blood as
possible from within the – inside
the brain, so what we're doing is,
we're irrigating and draining at the
same time. ...

M14 Music out
10:20:01

Cut to MCU Professor Whitelaw L
facing R front 10:20:03:04

Prof. Whitelaw IV:

... What is probably important is
the – the timing, we think this –
process by which scar formation
occurs probably is decided within
three to four weeks of the baby
having a haemorrhage, and in – in
Kelsey Anne's case, we're at
nineteen days, so we – we hope

we're just about within the – the time frame that we can stop this process from becoming er permanently established.
(10:20:30)

Cut to tracking WA behind Professor Whitelaw into nursery to MS Carl and Denene Lloyd – all 3 move in MS R to incubator	10:20:31:02	10:20:31 <i>Actuality Sound</i> Prof. Whitelaw IV: Right do you – do you want to come along and we'll er – we'll have a look and see how things have been going er since we started this morning. ...
Cut to CU baby Kelsey Ann – tube in mouth – facing R	10:20:39:08	Prof. Whitelaw OOV: ... She certainly doesn't look too – too stressed at the moment does she?
Cut to low angle CU fluid container	10:20:43:19	... We er – we would like to see the fluid er clearing even more. Carl OOV: Is it going to be as clear as what's going in? Prof. Whitelaw OOV: We don't – it doesn't have to be ...
Cut to 3 MS – Professor Whitelaw L – Denine and Carl R facing L	10:20:51:09	Prof. Whitelaw IV: ... as clear as ...
Start to fade up caption – reads: Denene & Carl Lloyd	10:20:52:02	... that. We – we have this grading of cerebral spinal fluid from ...
Caption out	10:20:56:01	... er – um Beaujolais through Coca cola to er Rose, to um scotch whiskey, cider, through to Leibfraumilch and then finally ending up with vodka, and you don't quite have to get to the vodka clear to be – to be doing quite well. So – <i>(laughs)</i> Denene IV: So what's coming out is actually not as bad as what you've seen in others? Prof. Whitelaw IV: <i>(over end)</i> Oh no, no ...
Cut to CU fluid container – finger IV R indicates level of fluid – hand OOV R – pan down L to CU hand holding fluid bag – hand OOV R – hold on fluid bag	10:21:18:23	Prof. Whitelaw OOV: ... the fluid coming out now is – is more like um white wine almost isn't it? Denene OOV: Mmm

Carl OOV: Mm-mmm

Prof. Whitelaw OOV: er with a little bit of debris in it, whereas when it was first coming out it was er much more like um – sort of mixture of cider and coca cola really. ...

Cut to 2 MCU Denene C – Carl R – both looking L – slight zoom in to Denene 10:21:34:14

Carl IV: ... Now we just sit and wait?

Prof. Whitelaw OOV: Yes, yes

Denene IV: (*under*) Fingers crossed. ...

Cut to MS across top of incubator to Carl L Denene R both looking down in to incubator – Professor Whitelaw in background C – zoom down to close MS baby Kelsey Anne 10:21:38:06

Denene IV:... Hello Kelsey

Prof. Whitelaw OOV: I do want to encourage you to touch her a wee bit. We're very aware of the fact that er small babies in incubators don't get much touch. Touch is really ...

Cut to BCU hand in top stroking baby's open hand – with tube attached – pull back to CU baby lying on side – facing R – adult hand lifted OOV top 10:21:51:11

... a – a sort of basic human need and rather that we could get you to get to – to –to relax using the stroking than that we have to use morphine to achieve the same effect.

Carl OOV: Mm-mm

Denene OOV: OK. (10:22:01)

10:22:01

M15 Music in

Cut to CU Brooke Taylor L facing R 10:22:06:00

10:22:10

Narrator:

Brooke Taylor was one of the first babies in the world to be brainwashed by Professor ...

Cut to high angle close MS **still** baby Brooke Taylor lying on stomach in incubator 10:22:14:20

... Whitelaw. She was born two years ago, ...

Cut to MCU **still** baby Brooke Taylor – head turned to L – tube out of nose 10:22:17:17

... seven weeks early with a haemorrhage that nearly ...

Cut to high angle close MS **still** baby Brooke Taylor in incubator wired and tubed – yellow bear in cot to R above head 10:22:20:17

... killed her. (10:22:21)

Start to mix through to slow pan up CU 10:22:23:00

M15 Music out

still baby Brooke Taylor in white garment		10:22:26	Victoria Taylor VO: I was terrified to be honest with you, I just cried most of the time, the thought of her going through all that at such an early age, it was – horrible. ...	10:22:24
Cut to low close MS Victoria Taylor sitting on chair leaning forward looking down L – holds red/blue toy in hand R – pan down L to MCU Brooke L playing with toys R	10:22:34:11		Victoria IV: (actuality sound) ... Can you do it? Two. ...	
		10:22:39	Victoria VO: If she would have had brain damage, they said she wouldn't be able to walk, she'd have cerebral palsy, she would have had a limp or – a speech problem ...	
Cut to CU Victoria Taylor – looking down R	10:22:46:03		Victoria Taylor IV: ... but ...	
Start to fade up caption – reads: Victoria Taylor	10:22:46:24		... luckily – um – she hasn't and she's ...	
Caption out	10:22:50:23		... here, fit, fighting with us now. Aren't you?	
Cut to MCU Brooke L looking down R front – slight pan R – red toy IV – places blue piece on top	10:22:53:21		Victoria Taylor VO: ... She's bubbly, she's speaking two or three words, she copies, nearly count now. (10:23:01)	
		10:23:04	Prof. Whitelaw VO: Really up until now, we haven't had very much to offer these babies at all ...	
Cut to MCU Professor Whitelaw R facing L front	10:23:07:19		Prof. Whitelaw IV: ... except the prospect of having repeated punctures to temporarily relieve pressure and the having a permanent shunt system ...	
Cut to CU computer graphic baby brain showing shunt system – pull back to show valve from brain to stomach	10:23:18:00		Prof. Whitelaw VO: ... er by which you're dependent upon um – a plumbing system really with a va – a one way valve going from the brain into the tummy ...	

Cut to MCU Professor Whitelaw – R facing L front	10:23:26:16	Prof. Whitelaw IV: ... a system which can malfunction, er at any time really in your life, we where you may suddenly get a blockage and become very ill and have to go back into hospital as an emergency for an operation, and where you really can't live er a very long distance away from a neurosurgical department. So it's a treatment but not a cure at the moment and we're going for a cure. (10:23:51)	10:23:51 M16 Music in
Cut to LS down hospital corridor – trolley pushed IV R and away down corridor	10:23:51:21	10:23:54 Narrator: The brain washing treatment is over and Kelsey Anne's progress is being closely monitored. (10:23:59)	
Cut to high angle MS Professor Whitelaw L looking R front across top of cot with baby Kelsey Ann – computer equipment in background R	10:24:01:24	10:24:02 Prof. Whitelaw IV: This is now four days since we finished the drift treatment on Kelsey ...	M16 Music out 10:24:01
Cut to CU sleeping baby Kelsey Ann facing down R Front	10:24:09:10	Prof. Whitelaw OOV: ... and now she's digesting milk – all on her own, she doesn't need – even need an intravenous line. She's making nice normal movements ...	
Cut to CU Professor Whitelaw L looking down R front	10:24:19:11	Prof. Whitelaw IV: ... um – she's sort of stretching, um – opening her fingers, moving her face a little bit, these are all very nice normal movements for a baby of this age. (10:24:30)	
Cut to MCU hands holding brain scanner on baby's head slight pan down L to show baby's face	10:24:31:14	10:24:32 Narrator: Brain damage at birth cannot be reversed, but Professor Whitelaw is hopeful ...	
Cut to high angle from head of cot to	10:24:37:01	... that his treatment can stop it	

MS Professor Whitelaw C scanning baby's brain L watching computer monitor R

from progressing. (10:24:39)

Cut to CU computer monitor showing brain scan images – hand IV L points to monitor – hand OOV L 10:24:40:10

10:24:41

Prof. Whitelaw OOV:

Now the left ventricle looks pretty clear in terms of blood clot, in other words it's just black, also very importantly the brain substance itself on the side of the ventricular system looks a normal sort of grey colour and not either bright ...

Cut to CU baby Kelsey Anne – Professor Whitelaw's hand moves slightly on her head and lifts OOV top 10:24:57:23

... white or very dark black, either of which would indicate damage. ...

Cut to MCU Professor Whitelaw L facing R – lifts tube up out of cot 10:25:03:05

Prof. Whitelaw:

... So far so good, we've done our treatment, we've washed out obviously a lot of the blood clots, um – we've been measuring the head circumference daily and it's – it's not increasing, there's no – there's definitely no increased pressure in her head. The ventricles are significantly smaller er despite the fact that we haven't drained any fluid over the last four days. So er I'm quite happy with the way things are going. ...

Cut to CU sleeping baby Kelsey Anne – start to fade to black 10:25:28:11

Prof. Whitelaw OOV:

... So the next step actually will be to begin to get her to try and get her to feed for herself, and that will be the road to home. (10:25:36)

10:25:36
M17 Music in

Faded to black 10:25:39:09

Start to fade up to CU baby Kelsey Anne being bottle fed 10:25:39:24

10:25:42

Narrator:

Kelsey Anne is now at home and reunited ...

Cut to close MS Carl and Denene on settee holding and feeding babies – 10:25:45:06

... with her twin sister. (10:25:46)

facing L – Denene with baby down R	10:25:48	Denene IV: <i>(Actuality sound)</i> Come on then, you want some of this
	10:25:50	Denene VO: It's been brilliant actually, we were really ...
Cut to MCU baby being bottle fed – pan L to baby 2 nd baby being fed by Carl	10:25:52:18	... worried that we'd have to bring Christina home and Kelsey behind, but she's come on leaps and bounds since they've been together. (10:25:59)
	10:26:00	Denene OOV: Little miracles ...
Cut to close MS Carl and Denene on settee holding and feeding babies – facing L – Denene with baby down R	10:26:00:18	Denene IV: ... that's what they are. <i>(laughs)</i> (10:26:01)
Cut to low angle CU Carl R looking down L	10:26:03:16	10:26:05 Narrator: It will be some time...
Cut to high angle close MS Carl and Denene on settee holding and feeding babies – facing L – Denene with baby down R	10:26:06:08	... before the success of brainwashing and head cooling can be established, but the signs are ...
Cut to CU baby being bottle fed – bottle OOV R – baby dribbles milk	10:26:12:07	... hopeful. (10:26:12)
	10:26:14	Dr. Thorsen VO: If you think that you have helped a baby to um develop normally of course that's um – it's a great satisfaction and it is ...
Cut to MCU Dr. Thorsen R facing L front – slow zoom in to CU	10:26:25:13	... such a devastating um condition to have um to develop cerebral palsy, that if you can avoid or um maybe reduce the severity by some form of intervention it's a – it's really worth it. (10:26:41)

Cut to MCU Victoria Taylor CR 10:26:41:24
 looking down L – pan down L to MCU
 Brooke eating with spoon and fork
Credits rollers starts over this shot
10:26:43:23

Cut to close MS Jeanette C holding 10:26:48:07
 Katie – Simon R leaning in L to stroke
 Katies’ hand – slight pan down L and
 zoom in to CU baby Katie

Cut to close MS Reece sitting on floor 10:26:57:07
 CL playing with toy – Dee sitting
 extreme R – slow zoom in to MCU
 Reece with toy

Cut to close MS Reece bouncing on 10:27:06:01
 bed

Credit Roller out 10:27:09:08

Picture faded out to black 10:27:10:19

Start to fade up Brenda Rowe Logo 10:27:10:24

Start Infonation Logo sequence 10:27:15:20

Cut to black 10:27:25:18

M17 Music out
 10 27:12

10:26:43:23 **Credit roller starts:**

Camera
 John Podpadec
 Peter Durling

Sound
 Paul Baker

Online Editor
 Jon Lomas

Dubbing
 Miles Harris

Music
 Liz Palmer
 Tim Reid

Offline Editor
 William Ennals

Director
Lizzie White

Producer
Brenda Rowe

Executive producer
Fiona Connelly

Series Editor
Ron Blythe

10:27:09:08 **Credit roller out**

10:27:10:19 Picture faded out to black

10:27:10:24 Start to fade up Brenda Rowe Productions Logo

A
BRP
Production
For
INFONATION

10:27:15:10 Cut to white

10:27:15:20 Start Infonation logo sequence

10:27:25:18 Cut to black