

The Science behind Skin-to-Skin Contact: The original paradigm

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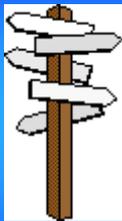
www.kangaroomothercare.com

Speaker Disclosure

Under ACCME guidelines:

- a) I have a financial affiliation with AMEDA : Speakers Bureau
- b) My wife markets educational materials and shirts related to the talk content Kangaroo Mother Care Promotions

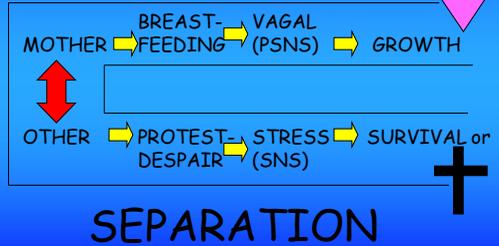
Overview



History of incubator
 Origins of an alternative
 Manama experience
 Randomised trial

Practical application
 Scientific approach

THE PLACE MODEL SKIN-TO-SKIN CONTACT



Brain basis of early parent-infant interactions: psychology, physiology, and *in vivo* functional neuroimaging studies

James R. Swain,¹ Jeffrey P. Leiberbaum,^{2,3} Susan Sore,⁴ and Lisa Strathearn^{5,6}
¹2014 Study Center, Yale University, New Haven, CT, USA, ²Psychology Department, Rice State University - Huxley Medical Center, Huxley, WA, USA, ³Brain Stimulation Laboratory, Medical University of South Carolina, Charleston, SC, USA, ⁴Neuro Center for Developmental Research, Baylor College of Medicine, Houston, TX, USA, ⁵Human Neuroimaging Laboratory, Baylor College of Medicine, Houston, TX, USA

The psychology of human parent-infant relationships
 Parenting is regulated by key hormones and neurotransmitters
 Neuroanatomical circuits of parenting
 Integrative physiology of normal parenting behaviours
 Brain imaging of human parent-infant relationships
 The neurobiology of empathy and parenting
 Conclusions and critical summary
 (Swain et al, 2007)

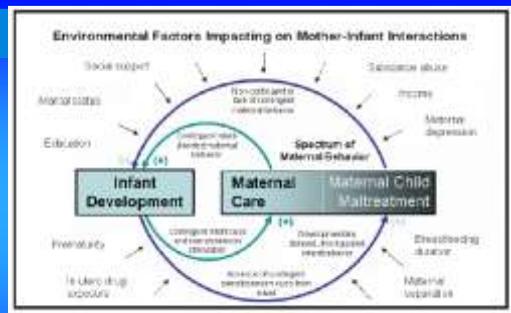


Table 2. Comparison of potential features of early parent-infant bonding in humans adopted from Leiberbaum et al., 2006. Early parental love was rated by 30 experts as similar to adult responsiveness change when followed by an asterisk.

Feature of love	Early parental love	Infant responsiveness
Relative nonaggression - focus on safety	+++++	+++
Altered parental voice - altered intonation and behavioral reciprocity	+++++	+++

"Scientific" features of love

Table 2 Comparison of scientific features of early parent-infant bonding to humans (adapted from Leckman et al., 2006). Early parental love was rated by 25 experts as similar to adult responsiveness during which mothers engaged in six activities.

Features of love	autonomic responsivity	Early parental love	Infant responsiveness
Selective reactivity - focus on mother	****	****	****
Altered mental state - altered awareness and behavioral reactivity conditioned by the absence, presence, or near state of the other(s)	****	****	****
Close view - fusional transposition	***	****	****
Full-face (laughing and crying) to recognition	***	****	****
Keeping his response	***	****	****
Mutual gaze	***	****	****
Heightened awareness of the other	****	****	****
Heightened sense of cognitive responsibility and concern about the well-being of the other	****	****	****
Separation distress	****	****	****
Heightened aggression (through focus on the other) to the other	****	****	****
Altered repetitive behaviors	****	****	****
Primarily looking and direct physical contact	****	****	****
Emotionally charged caring - talking, singing, rocking and grooming	****	****	****
Clinging to be secure when not usually observed that something is just right	****	****	****
Emotionally mediated, when	****	****	****
Establishment of technical or tactile sensitivity to physical presence of the other(s), usually mediated by a culturally defined ritual	****	****	****
Organization and ongoing development of associative representations of	****	****	****
Reciprocal	****	****	****
reciprocal patterns of interaction	****	****	****

THE PLACE MODEL

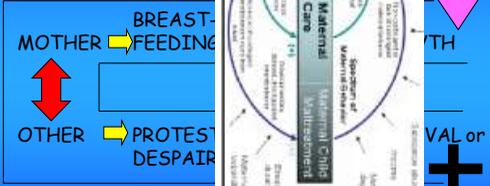
SKIN-TO-SKIN CONTACT



SEPARATION

SKIN-TO-S

ACT



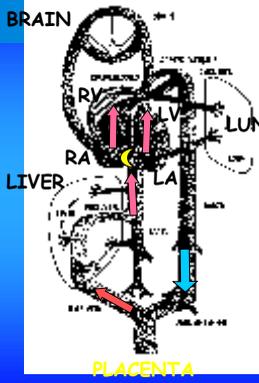
SEPARATION

HYPERAROUSAL - (Schore 2001)

gloss. Although baby cries may be aversive compared with baby pictures, considerable overlap in activation of attention, arousal and reward circuits may not be too surprising since, for example, parents are still generally compelled to approach a crying infant - perhaps in anticipation of reward. It also

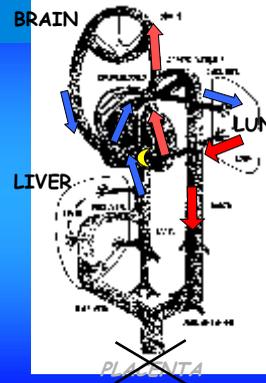
(neurologically) compelled to approach distress crying ... then maintains proximity and elicits care

that might be necessary for survival. Infant cry-care loops may thus be thought of as part of an elaborate, dynamic and interactive communication system that maintains proximity to and elicits care from caregivers (MacLean, 1990; Swain, Mayes, & Leckman, 2004).



FETAL CIRCULATION
(from J Lind et al)

Oxygen rich blood from placenta, First through liver, to inf vena cava, Divides in heart, through FORAMEN OVALE Right flow to brain Left flow to body, AND back to placenta



NEONATAL CIRCULATION
(from J Lind et al)

Expansion of lungs (takes one third second.) Pushes volume of fluid to left ventricle, pressure CLOSES foramen ovale Left ventricle pushes blood to brain and body Blood returns via both vena cava, Right heart pumps to LUNGS, Oxygenated blood to left heart Left atrial pressure keeps foramen ovale closed.

NEONATAL CIRCULATION

(from J Lind et al)

There is a small amount of contrast shunted to LA.

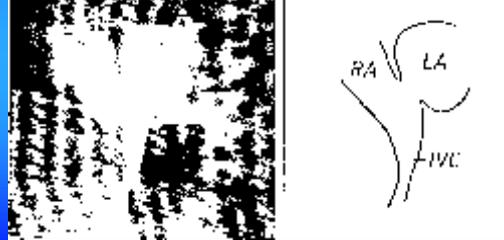
Note also that contrast reflux easily up into the superior vena cava



CRYING CIRCULATION

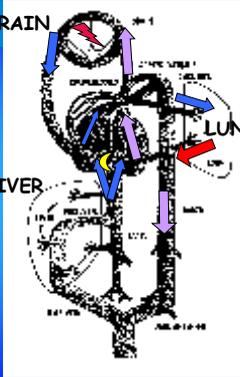
(from J Lind et al)

CRYING INCREASES right atrial pressure
The foramen ovale OPENS, Venous blood mixes with oxygenated blood, **Cyanosis results**



BRAIN

LIVER



CRYING CIRCULATION

(from J Lind et al)

CRYING INCREASES right atrial pressure
Foramen ovale OPENS
Venous blood mixes with oxygenated blood,
Cyanosis results
ALSO: increased pressure in carotid arteries
increased pressure in superior vena cava
Choroid plexus unsupported
Intraventricular haemorrhage

“Crying, the highest behavioural state, is **DETRIMENTAL**.”



It impairs lung functioning, jeopardizes the closure of the foramen ovale, increases intra-cranial pressure, and **initiates a cascade of stress reactions**”.

(Anderson 1996)

“Crying, the highest behavioural state, is **DETRIMENTAL**.”



Separated infants cry much more

	SSC babies	Cot babies
Number of cries	4	41
Seconds cried	70	2839

(Christenson 1992)

CRYING IS BAD FOR BABY !!

“Crying ... **depletes energy reserves and oxygen, increases intracranial pressure, increases white blood count and increases base excess, re-establishes fetal circulation, interferes with the infant’s ability to interact with caregivers.**”

Gene Cranston Anderson (1984)

CRYING IS BAD FOR BABY !!

“These effects place fullterm and preterm infants at greater risk for respiratory distress, pneumothorax, acute or subclinical intra-ventricular haemorrhage, unnecessary treatment for pseudosepsis, delayed circulatory and psychosocial adaptation to extrauterine life.”

Gene Cranston Anderson (1984)

CRYING IS BAD FOR BABY !!

These effects place fullterm and preterm infants at greater risk for

delayed physiological and psychosocial adaptation to extrauterine life.”

Gene Cranston Anderson (1984)

Children Need Touching and Attention, Harvard Researchers Say

April 09, 1998

America's "let them cry" attitude toward children may lead to more fears and tears among adults, according to two Harvard researchers.

Instead of letting infants cry, American parents should keep their babies close, console them when they cry, and bring them to bed with them, where they'll feel safe, according to Michael Commons and Patrice Miller

<http://www.hno.harvard.edu/gazette/1998/04.09/ChildrenNeedTou.html>

BABIES
SHOULD
NEVER
CRY

efficiently
regulated and
organised
right brain

AMYGDALA:
fear and emotion

Prefrontal cortex
approach / avoid

Behavioural
activation system
reward-based
(dopamine) ←

Amodio 2008

Frontal alpha EEG asymmetry

= a measure of temperament
(i.e. *trait* emotion).

an index of potential risk for
emotion-related psychopathology.

a sizable literature (+/- 100 studies) embeds the measure in a network of psychological and behavioural constructs, thus bestowing frontal EEG asymmetry with sizable construct validity as a measure of an underlying approach-related or withdrawal-related motivational style, or as an index of potential risk for emotion-related psychopathology.

Frontal alpha EEG asymmetry

Greater Left-sided EEG asymmetry
 → greater positive affect and
 → greater psychological and
 → greater physiological resilience

Greater Right-sided EEG asymmetry
 → greater negative affect and
 → poorer psychological and
 → poorer physiological resilience

Frontal alpha EEG asymmetry

Greater Right-sided EEG asymmetry
 → greater negative affect and
 → poorer psychological and
 → poorer physiological resilience

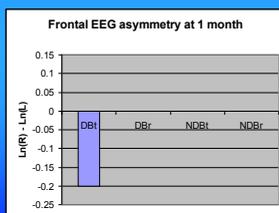
Now we know →
 Maternal depression causes attachment and developmental problems in baby ... just as above ...
 what about EEG asymmetry ???

Aaron Jones et al. (2004)

conducted a study of four groups of mother - infant dyads:
 EEG done on baby at 1 month of age

The first group was Depressed-Bottlefed

EEG asymmetry correlates as expected ...

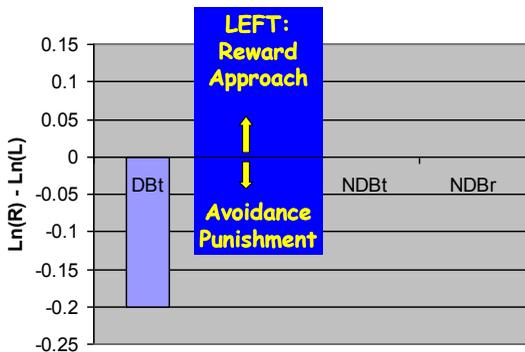


Aaron Jones et al. (2004)

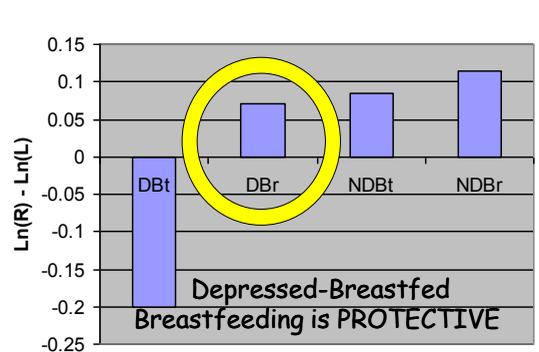
The four groups were of mother - infant dyads:

Depressed-Bottlefed	DBt
Non-Depressed-Bottlefed	NDBt
Depressed-Breastfed	DBr
Non-Depressed-Breastfed	NDBr

Frontal EEG asymmetry at 1 month



Frontal EEG asymmetry at 1 month



Schore / Bergman

"developmental psychoneurobiological model"

Poor adult mental health → from
Poor infant mental health → from
Poor right brain regulation → from
POOR ATTACHMENT → from
lack of skin-to-skin contact → from
SEPARATION

Stephane TARNIER 1828 -97

French obstetrician

**WHY
DO WE
SEPARATE
BABIES
FROM
MOTHERS ???**

Saw a warmed box for hatching chickens, had one designed for "weaklings" ...
... invented incubator

Pierre BUDIN 1846 - 1907

Friend of Tarniers ...took Incubators, made centres for the care of weaklings, wrote book on subject.

Political support ...
France versus Germany

BUDIN was very particular to include mother, reason for the glass window

Martin COUNEY 1860 - 1950

German born, learnt of incubator from Budin, took "hatchery" to Exhibitions, famous for "preemie road show".

Berlin 1896, Buffalo → Omaha 1902-4, Chicago Fair 1932 2nd highest receipts, Last show New York 1940.

Equal parts P.T. Barnum-style circus sideshows and World's Fair wonders, Dreamland delivered novel and fantastic diversions of the odd and unusual. It was the home to scientific, ethnological and cultural exhibits, including Dr. Couney's Baby Incubator pavilion, which had been shown at the 1901 Buffalo Exhibition and the St. Louis Pike (seen here). Catering to the public's endless fascination with oddities and freaks, Dreamland had, as one of its main attractions, "Lilliputia,"

Martin COUNEY 1860 - 1950

Couney successfully raised 5000 prems!

**BUT -
used wet-nurses,
excluded mothers**
(mother got free pass to the shows !)

Mothers were excluded - "germs" ...

Sarah Morris Hospital, Chicago 1923,
others followed - all with a
"policy of strict separation".

With the advent of artificial infant
formula, mother not needed at all !!

Habitat AND niche now synthetic !!

HOW MUCH
SCIENCE ??
RESEARCH ??

WHY

do we
separate
mothers from
babies ??

**INCUBATOR & SEPARATION
= ACCIDENT of HISTORY**

Martin COUNEY 1860 - 1950

... famous for
"preemie road show".

MONEY MAKING SHO

PERMANENT pavilion in Dreamland

Gunnar Sedin

"Air, warmth and water"

Early neonatology focused on warmth and
cardio-respiratory outcomes

"If CVS and oxygenation okay = brain okay"

High BP → IVH

Low BP → PVL

Gunnar Sedin

Focus on ELBW

"increasing survival"
decreasing sequelae

Current record 22 wk GA

Current record 244 g

Gunnar Sedin

Focus on ELBW "increasing survival"
 decreasing sequelae

Current record 22 wk GA
Current record 244 g
Rumaisa went home 9th February 2005

Sequelae are in fact huge

Comment

Though our survival is amazing ...
our sequelae are objectively speaking
HORRIFIC.

our measures / parameters
for sequelae have
high specificity and
low sensitivity

23w 40% SURVIVAL ... BUT

BUT - smaller brains (steroid effects)
IQ losses = 1 SD
white tract loss,
hippocampal loss
.... etc

"The fetal brain has remarkable capacity
to regenerate and repair"

Comment

"The fetal brain has remarkable capacity
to regenerate and repair"

ILLUSION?
"woe to you that give comfort
where there is no comfort"

Recent research suggests the opposite.
The brain has a degree of adaptability,
and is able to compensate and cope with insult.

The brain does not significantly regenerate.

Is there an alternative for premature infants ??

KANGAROO MOTHER CARE

-Skin-to-skin	CALOR	warmth
-Breastfeeding	LECHE	milk
-Protection	AMOR	love

KMC started by
Drs Rey and Martinez,
(1979) Bogota, Colombia.
UNICEF report 1983
"remarkable claims"

Rey and Martinez

Started in 1979

UNICEF report 1993

“remarkable claims”

Survival 1001-1500g before : 27%

after 89%

Hammersmith in London 91%

“intriguing and incredible”

Andrew Whitelaw & Katherine Sleath

11000 births annually, overcrowded
cross-infections → poor survival

“kangaroo babies” :

At birth: incubator, conventional care,
“... do not see this as an alternative to
conventional care ... babies need to
survive hazards of first few days in
order to enter programme” → 1/3 do!

Andrew Whitelaw (Lancet 1985)

“The myth
of the marsupial mother”

Survival 89%

“but figures misleading because omitted
babies who died in first few days”

Valuable in developing countries
Colombia has nothing to teach developed
countries about survival

Anderson and Wahlberg

also visited in 1985

First English reports

Wahlberg spread news
to Europe, where Swedish
group continues to research
including Christensson

First International meeting

convened in Trieste, Italy,
1996, by Cattaneo & team

Meeting reported
on multicenter study, which
included Worku, Ethiopia.

International Network
of KMC (INK) established.

Anderson Syfrett Ludington Swinth

Early dissemination and
research in the USA ongoing

Kangaroo Mother Care

was there defined

Kangaroo Position	Skin-to-skin contact
Kangaroo Nutrition	Breastfeeding (excl)
Kangaroo Discharge	Home followup
Kangaroo Support	Adjunct to technology

Origin of BIRTH K M C

Drs Rey & Martinez
1979 Bogota, Colombia
LATE K M C

1985 Andrew Whitelaw

1987 Agneta Jurisoo
BIRTH K M C

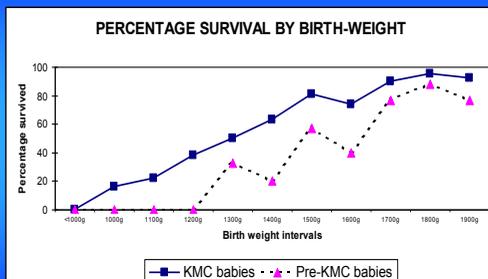
DEFINITION of KMC (1990) MANAMA, ZIMBABWE

- # Skin-to-skin contact from birth, continuous
- # Breastmilk from birth & exclusive breastfeeding
- # Psychological support to mother

KMC as above used regardless of weight and gestation.
KMC provides the baby with very intensive care.

KC (in the USA) - In-hospital skin-to-skin contact, any duration, primarily adjunct to CMC (Conventional Method of Care).

Results - Manama



Results - Manama

(Born 1000g to 1500g)

Survival before KMC 10%
Survival with KMC 50%
(Stabilized in 6 hours)

Weight gain per day 30 g/d
Breastfeeding rate 100%

THE PLACE MODEL

SKIN-TO-SKIN CONTACT



SEPARATION

Mother is a superior incubator

KangaCarrier

This shirt was designed to enable the mother to provide continuous day and night skin-to-skin contact.

The wrapper secures the baby, the shirt supports the mother, both are comfortable and safe.

Dangers and contraindications

- Obstructive apnoea
- Monitoring caveats

- ? Smothering
- ? Skin care
- ?? Infections

Technique:

Photos on website:

www.kangaroomothercare.com

Continuous SSC makes great demands on mother

The KangaCarrier & wrapper ensure that MOTHER and BABY are safe and comfortable

Technique:

The WRAPPER is for BABY.

Detail: Baby xiphisternum on mother's xiphisternum, Flex baby, head either side. Folded edge of wrapper goes UNDER THE EAR - tight!
Make reef knot behind axilla (this picture posed, is too far forward)



In this position:

The airway is protected, Gravity helps breathing, Abdominal breathing helped

There is maximal SSC, Position is flexed,

Baby can sleep safely.

Technique:

The SHIRT is for MOTHER.

Detail: With baby in wrapper,
put KangaCarrier on,
flaps facing forwards,
over babies head,
right around body,
tied below flexed legs,
fixing baby firmly
to mother's chest.

In this position:

Baby is fully contained.
(this containment allows
the gestation to
continue)

Mother is free to work:
both hands are free,
and she can feel the
baby is secure.

In this position: Mother free

To socialize

To go home
In this position,
Mother is giving
intensive care,
and is able to do
so at home much sooner
EARLY DISCHARGE

In this position: Mother free

To sleep,
safely and comfortably

In this position
Mother CAN NOT breastfeed !!!
But can easily loosen and feed frequently ...

The principles

can be extended to
different contexts

- premature birth
- oxygen dependence
- CPAP / IPPV

KangaCarrier available at
www.kangaroomothercare.com

And here today ...

**SKIN-TO-SKIN
& BREASTFEEDING :
THEN ADD
TECHNOLOGY**

Is there an alternative
for premature infants ??

Is THIS an alternative
for premature infants ??

**ALTERNATIVE:
BIRTH S S C**

IMPLICATIONS Third World

The solution:

BIRTH S S C

**Is SSC safe for
Unstable newborns?**

FIRST NEONATAL RESEARCH

1960's → Hyperbaric oxygen chamber,
Treatment for asphyxia, very popular

The first

RANDOMISED CONTROLLED TRIAL
ever conducted : compared to "air"

More babies died in the chamber

More survivors had long term problems

Still used widely for years after ...
now coming back!

Archie COCHRANE 1909 1988

Any intervention should be subject to RANDOMISED CONTROLLED TRIAL and meta-analysis ...

EVIDENCE BASED MEDICINE.

EVIDENCE BASED MEDICINE.

INCUBATOR invented	1900
INCUBATOR in wide use	1940
Randomised trials	1960
KMC first described	1980
Birth KMC described	1990
INCUBATOR vs Birth KMC	2000

SKIN-TO-SKIN CONTACT



KANGAROO MOTHER CARE FROM BIRTH

COMPARED TO CONVENTIONAL INCUBATOR CARE

Research funded by THRASHER RESEARCH FUND, U.S.A.

Admin and stats by MEDICAL RESEARCH COUNCIL, R.S.A.

KANGAROO MOTHER CARE FROM BIRTH

COMPARED TO CONVENTIONAL INCUBATOR CARE

Nils Bergman

Lucy Linley, Sue Fawcus
Mowbray Maternity
Cape Town, RSA.

Reference

RCT of skin-to-skin contact from birth versus conventional incubator care for physiological stabilisation in 1200- and 2199-gram newborns.

Bergman NJ, Linley LL, Fawcus SR.
Acta Paediatrica 2004
Vol 93(6): 779-785

Primary hypothesis

SSC (skin-to-skin contact) from birth is superior to incubator care for low birthweight infants _

ONLY HABITAT DIFFERS

BAILOUT points

"physiological parameters exceeding normal limits, requiring medical assessment and or intervention"

- 1 Skin temp consistently <35.5°C
- 2 Heart rate <100; or > 180 bpm
- 3 Apnoea longer than 20 seconds
- 4 O₂ sats below 89% (x2), (CPAP/60% O₂)
- 5 Blood glucose < 2,6mmol/l, (laboratory)

"Stability of Cardio-Respiratory system In Preterm Infants" (Fischer et al, 1988)

SCRIP SCORE	2	1	0
Heart rate	Regular	Deceleration to 80-100	Rate <80 or >200 bpm
Respiratory rate	Regular	Apnoea <10s, or periodic breathing	Apnoea >10s Tachypnoea >80 pm
Oxygen saturation	Regular >87%	Any fall to 80 - 87%	Any fall below 80%

Score allocated for a five minute period of continuous observation, maximum six for period

Research hypotheses

	Stabilising DURING 6h	Stabilised AT 6 hours
BAILOUT	H1a	H1b
SCRIP	H2a	H2b

Results

Minimisation technique ensured groups balanced for confounders.

(n = 34)	KMC	CMC
Mean weight	1813g	1866g
Mean GA	34.2w	35.3w
Approp' GA	65%	64%
Male	60%	50%

(p 783)

H1b (SPECIFIC)

	Doctor summoned:	Stable
INCUBATOR	92%	8%
SKIN-TO-SKIN	17%	83%

Bergman et al 2004

THE PLACE MODEL

SKIN-TO-SKIN CONTACT



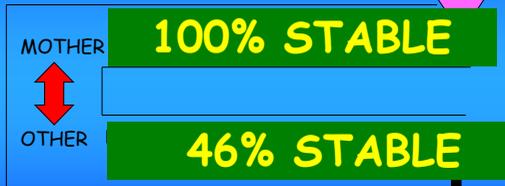
SEPARATION

"100% SCRIP STABILITY"

		S	S	C	C	M	C
1200g to 2200 g	1 - 6h	56%		11%			
	@ 6h	100%		46%			
1200g to 1800g	1 - 6h	44%		0%			
	@ 6h	100%		25%			

THE PLACE MODEL

SKIN-TO-SKIN CONTACT



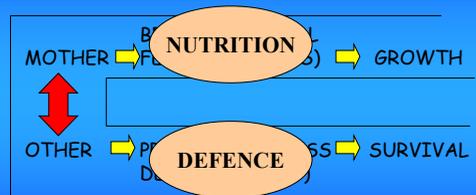
SEPARATION

Skin-to-skin contact IS MORE essential for premature newborns!

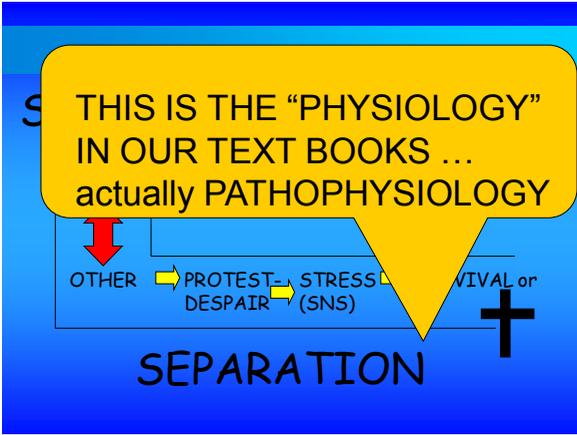
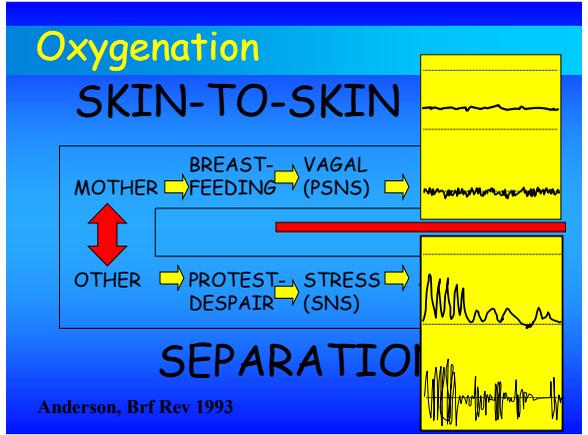
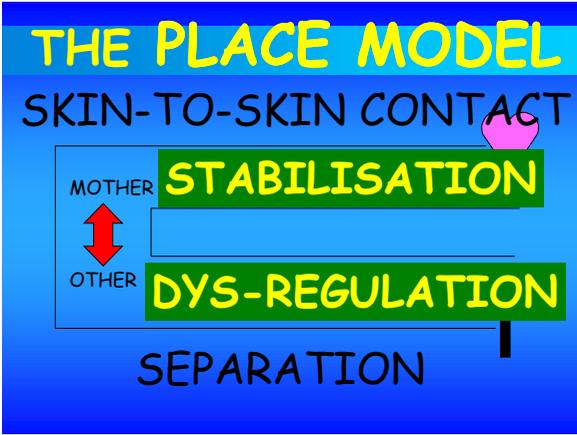
INCUBATORS DE-STABILISE NEWBORNS

THE PLACE MODEL

SKIN-TO-SKIN CONTACT



SEPARATION



Premature babies are not in incubators because they are unstable.

Premature babies are unstable because they are in incubators.

INCUBATORS DE-STABILISE NEWBORNS

What is a paradigm?

[Kuhn, T S; The Structure of Scientific Revolutions, 2nd Ed., Univ. of Chicago Press, Chicago & London, 1970, p.175].

Kuhn defines a paradigm as: "an entire constellation of beliefs, values and techniques, and so on, shared by the members of a given community"

What determines a paradigm ??



Tradition
Culture
Experience

What is a paradigm?

The American Heritage® Dictionary of the English Language: Fourth Edition. 2000.

paradigm 3. A set of assumptions, concepts, values, and practices that constitutes a way of viewing reality for the community that shares them, especially in an intellectual discipline.



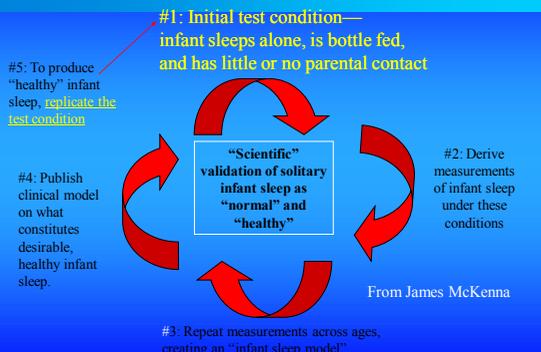
PARADIGM CONSTRUCT

Paradigm: "in the philosophy of science, a generally accepted model of how ideas relate to one another, forming a conceptual framework within which scientific research is carried out"

MSN Encarta

BASIC ASSUMPTIONS:
 FOUNDATION / PLATFORM / BASE

Culture Producing Science Producing Culture: How A Folk Myth Achieved Scientific Validation



#1: Initial test condition— infant sleeps alone, is bottle fed, and has little or no parental contact

#2: Derive measurements of infant sleep under these conditions

#3: Repeat measurements across ages, creating an "infant sleep model"

#4: Publish clinical model on what constitutes desirable, healthy infant sleep.

#5: To produce "healthy" infant sleep, replicate the test condition

"Scientific" validation of solitary infant sleep as "normal" and "healthy"

From James McKenna

PARADIGM CONSTRUCT

Paradigm: "in the philosophy of science, a generally accepted model of how ideas relate to one another, forming a conceptual framework within which scientific research is carried out"

MSN Encarta

BASIC ASSUMPTIONS:
 = **INFANT SLEEPS ALONE**
 FOUNDATION / PLATFORM / BASE

University of Oklahoma College of Medicine
 Irwin H. Brown Office of Continuing Medical Education
 Annual Speaker Disclosure Form - Guidelines that Affect Speakers

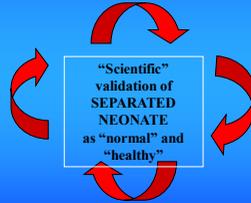
PARADIGM CONSTRUCT

Specifically, all the recommendations involving clinical medicine in a CME activity must be based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the care of patients.

Culture Producing Science Producing Culture:
How A Folk Myth Achieved Scientific Validation

#5: "replicate the test condition"
 SEPARATED NEONATES ARE NORMAL

#1: Initial test condition— infant sleeps in INCUBATOR, is FORMULA fed, SEPARATED



#2: Derive measurements NEONATES under these conditions

#4: Publish TEXTBOOKS DESCRIBING "NORMAL" NEONATES

#3: Repeat measurements across ages, defining "NEONATAL PHYSIOLOGY"

From James McKenna

#5: "replicate the test condition"
 SEPARATED NEONATES ARE NORMAL

BASIC ASSUMPTIONS:
 = INCUBATOR STABILIZES BABY
 FOUNDATION / PLATFORM / BASE

#5: "replicate the test condition"
 SEPARATED NEONATES ARE NORMAL

Scientific Validation of a False Assumption

"It's not what we know that gets us into trouble...

it's what we know... that just ain't so!

From: Everybody's Friend (1874)

By Josh Billings

EVIDENCE FOR

SAFETY OF INCUBATORS ...

DOES NOT EXIST !!!

EVIDENCE FOR

SAFETY OF INCUBATORS ...

The evidence is assumed,
 taken for granted!
 It is part of our paradigm.

EVIDENCE FOR

SAFETY OF INCUBATORS ...

We know their use to achieve thermal control and appropriate humidity ... **and SURVIVAL**

... but we've neglected the brain!

INCUBATOR

↓
SEPARATION

↓
DISSOCIATION

↓
DIS-REGULATION

↓
NEUROPATHOLOGY

THIS EVIDENCE DOES EXIST !!!

INCUBATORS DE-STABILISE NEWBORNS

Paradigm shift ...

For unstable newborns:

Is "Birth KMC" safe ?

Is "Birth KMC" safer ... ?

Is "incubator" safe ?

Is "incubator" unsafe ?

INTERVENTION DOES :

GOOD

LITTLE

HARM

SSC

Incubator

PRIMUM NON NOCERE

SSC

Incubator

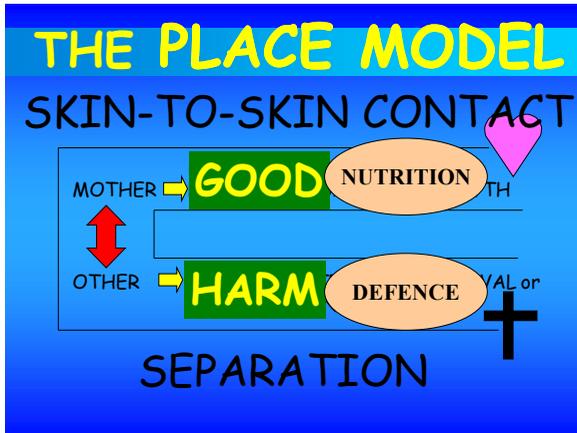
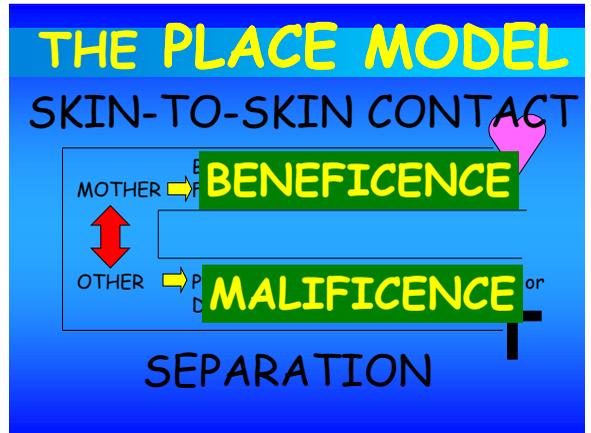
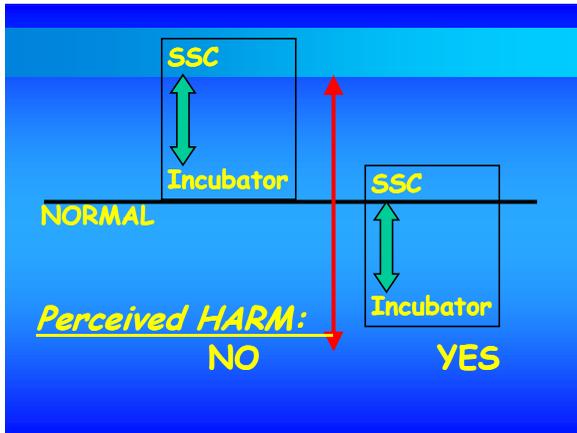
NORMAL

Perceived harm:
NO

What is a paradigm?

(The American Heritage Dictionary of the English Language, Fourth Edition, 2009)

paradigm 3: A set of assumptions, concepts, values, and practices that constitutes a way of viewing reality for the community that shares them, especially in an intellectual discipline



"We cannot solve any significant problem at the same level of thinking at which it was created."
Albert Einstein

BASIC ASSUMPTIONS:
QUESTION OUR ASSUMPTIONS
FOUNDATION / PLATFORM / BASE

QUESTION OUR ASSUMPTIONS:

Without awakening to assumptions and "basic belief system"
New information cannot be grasped !!

WHAT NEW INFORMATION ?

SEPARATION VIOLATES

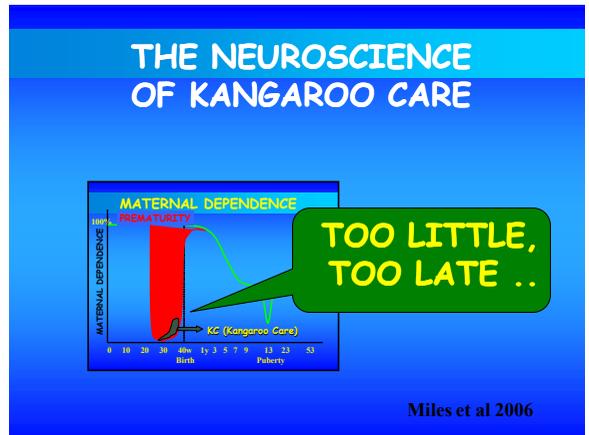
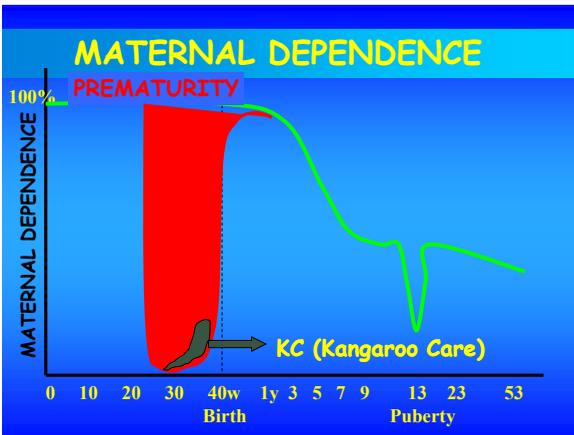
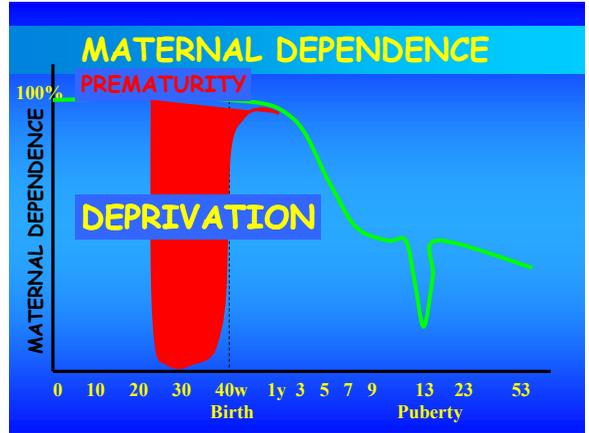
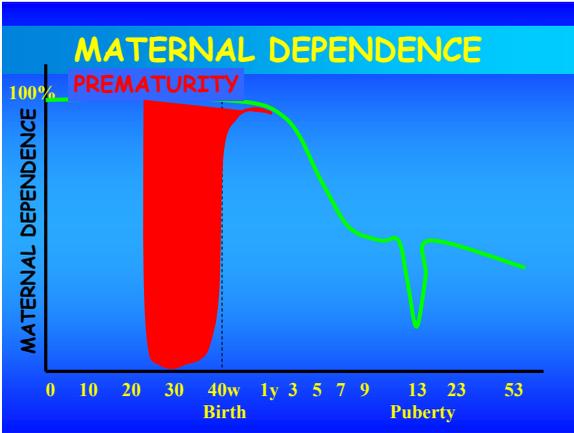
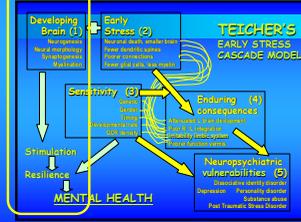
THE INNATE AGENDA OF MOTHER AND NEWBORN

#5: "replicate the test condition"
SEPARATED NEONATES ARE NORMAL

#5: "replicate the test condition". SEPARATED NEONATES ARE NORMAL.

SEPARATION IS LIFE THREATENING (WRONG PLACE)

MATERNAL DEPENDENCE



A controlled trial of skin-to-skin contact in extremely preterm infants

Rachel Miles¹, Frances Cowan², Vivette Glover³, Jim Stevenson¹, Neena Modi^{3,4}

Mother-infant skin-to-skin contact after extremely preterm birth results in **neither benefit nor adverse consequences**. Although there is no reason to dissuade mothers who wish to provide STS contact, we are unable to recommend resource allocation for the implementation of STS programmes for extremely preterm infants in a neonatal intensive care unit setting.

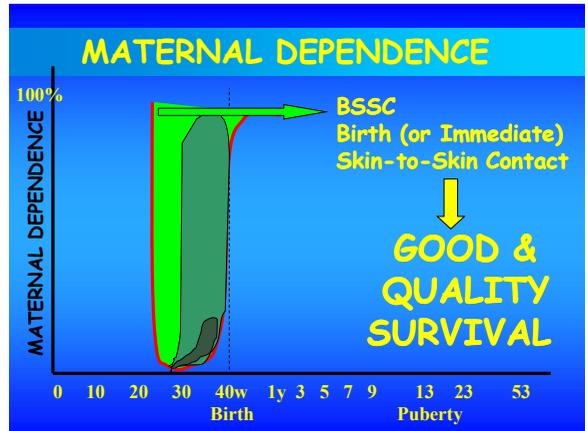
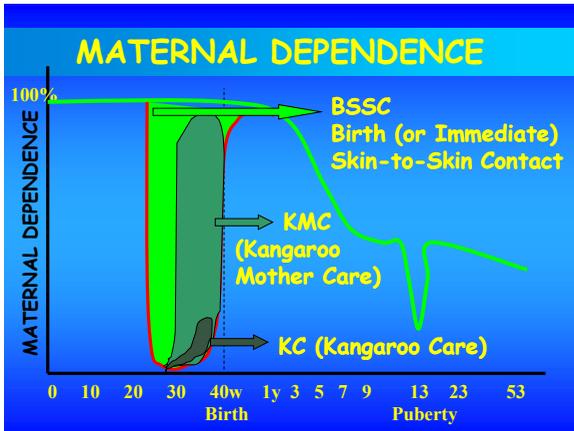
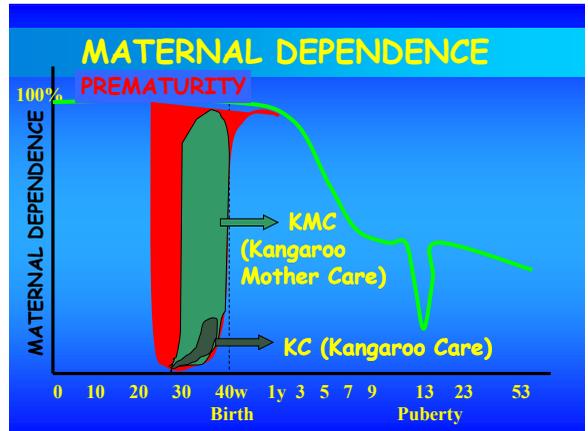
nurse providing clinical care. The intention was to provide 20 min of STS once daily for 4 weeks. Unit policy did not

Died 15%



Died 4%

Miles et al 2006



KANGAROO MOTHER CARE

Baby Stohm, 780g

**HUMANITY FIRST
TECHNOLOGY SECOND**

Skin-to-skin contact IS MORE essential for premature newborns!

Our **NORMAL** biology



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