

1rst Thing not to do SIMP:
NO BED REST NELLA MPP

Mariarosaria Di Tommaso con la collaborazione di Fabio Facchinetti,
Stefano Giannubilo, Laura Giorgi e tutto il Direttivo della SIMP 2014-18

Due assunti dietro il trattamento con bed rest:

1. E' efficace nella prevenzione del PTB
2. E' sicuro per la madre e per il feto

No bed rest nella MPP

- Approfondimento bibliografico
- Identificazione della frase
- Stesura documento per i professionisti
- Materiale informativo per le pazienti

1. E' efficace nella prevenzione del PTB?

Negli anni 80 comincia a vacillare questa credenza

BED REST IN PREGNANCY

Robert L. Goldenberg, MD, Suzanne P. Cliver,
Janet Bronstein, PhD, Gary R. Cutter, PhD,
William W. Andrews, PhD, MD, and
Stephen T. Mennemeyer, PhD

Review

Conclusions: Bed rest is used extensively to treat a wide variety of pregnancy conditions, at substantial cost but with little proof of effectiveness. We recommend that because this intervention has failed the test of effectiveness, its use during pregnancy should be curtailed unless randomized trials demonstrate improvement in a specific outcome. (*Obstet Gynecol* 1994;84:131–6)

BED REST

Hobel C et al. *Am J Obstet Gynecol*, 1994;
170:54-62

- Unico studio randomizzato multicentrico
- 1774 donne a rischio (Creasy):
 - 432 bed rest
 - 411 progestinici
 - 407 supporti sociali
 - 412 placebo
 - 422 nessun intervento

PARTO PRETERMINE %	
Gruppo di controllo	7,9 %
Gruppo di intervento	8,5 %

2014

CLINICAL OBSTETRICS AND GYNECOLOGY
Volume 57, Number 3, 616–627
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Maternal Activity Restriction in Pregnancy and the Prevention of Preterm Birth: An Evidence- based Review

**SIOBHAN MCCARTY-SINGLETON, MD,
and ANTHONY C. SCISCIONE, DO, MD**

TABLE 3. Review of Articles—Bed Rest in Pregnancy

References	Type of Study	Objective	Number	Findings
Berkowitz et al ⁸	Retrospective case-control	To examine the effects of employment, housework, and leisure physical activity in pregnancy	175 mothers of singleton preterm infants	<u>No significant difference in hours of employment, housework, childcare, and physical activity</u>
Elliot et al ¹²	Prospective randomized control	To examine the impact of AR on PTB rate among women experiencing PTL with negative FFN	313 controls 36 women randomized to AR 37 women randomized to NAR	<u>No statistical difference in the incidence of PTB between the 2 groups.</u> 44.4% of the AR group delivered preterm and 35.1% of the NAR group delivered preterm.
Hobel et al ⁹	Prospective randomized control	To evaluate a preterm prevention project including education, increased prenatal visits, and selected prophylactic interventions to reduce PTB (bed rest, N = 432, psychosocial support, N = 407, 20 mg Provera, N = 411)	5 clinics (1774 patients) in the intervention group; 3 clinics (880 patients) served as controls	<u>No evidence to suggest any added benefit of prophylactic interventions.</u>
Sosa et al ¹¹	Cochrane review	To evaluate the effect of bed rest using RCTs with clinical outcomes	1 study met inclusion criteria (Hobel et al ⁹)	<u>PTB < 37 wk similar between groups (7.9% in the intervention group vs. 8.5% in the control group; RR 0.92; CI, 0.62-1.37)</u>
Saurel-Cubizolles et al ¹⁰	Retrospective case-control	To analyze the relation between PTB and employment conditions in Europe	5145 women who delivered preterm 7911 women who delivered at term	<u>No evidence to suggest increased risk of PTB among employed women</u>

Grobman et al ¹⁵	Secondary analysis of randomized control trial	To evaluate outcomes associated with AR and women with short cervix	252 women on AR with short cervix 394 women NAR with short cervix	PTB < 37 wk significantly <u>more common among women on AR</u> (37% vs. 17%, $P < 0.001$)
Kovacevich et al ²⁹	Retrospective case-control	To determine prevalence of thromboembolic events among women on AR for PTL or PPROM	192 women with PTL or PPROM on AR 6164 women with PTL or PPROM NAR	Increased risk of <u>thromboembolic events</u> among women on AR (15.6 cases/1000 vs. 0.8 cases/1000)
Carr et al ³⁰	Retrospective case-control	To determine whether the risk of DVT in women on AR warrants prophylactic heparin	266 women on AR 48259 women NAR	<u>Risk of DVT in women on AR is < 1.0%</u> and does not warrant heparin therapy (assuming a 1% risk warrants heparin therapy with a power of 80%, α of 0.05)

TABLE 3. (Continued)

References	Type of Study	Objective	Number	Findings
Maloni and Schneider ³¹	Longitudinal study	To assess gastrocnemius muscle metabolism and recovery during antepartum AR and 6 wk postpartum	65 women on AR	Time for gastrocnemius muscle reoxygenation <u>after exercise significantly increased during AR</u> ($t = -2.1$, $P < 0.05$) and significantly decreased postpartum ($t = 1.83$, $P < 0.05$)
Maloni et al ³²	Longitudinal study	To assess maternal weight change and infant birth weight among women on AR	141 women on AR	Weekly rate of weight change <u>significantly lower than IOM recommendations</u> ($t = -4.21$, $P < 0.001$) <u>Birth weights significantly lower than matched US sample</u> ($t = -6.81$, $P < 0.001$)
Kaji et al ³⁴	Longitudinal study	To evaluate changes in bone turnover markers during pregnancy	15 women on AR for PTL 22 women NAR without PTL	<u>Markers of bone turnover in women on AR were significantly higher than controls</u> ($P < 0.001$)
Promislow et al ³³	Prospective cohort study (1992-1995)	To evaluate patterns of bone loss in pregnancy	181 women randomized from a parallel study (Lead in Pregnancy)	<u>Increased bone loss among women on AR compared with women NAR</u> (4.6% vs. 1.5%, $P = 0.001$)

AR indicates activity restriction; DVT, deep venous thromboembolism; FFN, fetal fibronectin; NAR, no activity restriction; IOM, Institute of Medicine; PTB, preterm birth; PTL, preterm labor; PPROM, preterm premature rupture of membranes.

*Maternal Activity
Restriction in
Pregnancy and the
Prevention of Preterm
Birth: An Evidence-
based Review*

SIOBHAN MCCARTY-SINGLETON, MD,
and ANTHONY C. SCISCIONE, DO, MD

2014

*Se prescritto necessita di
un protocollo standard e
deve implicare il consenso
informato da parte della
paziente che è consapevole
che non ci sono benefici a
fronte di effetti negativi
conosciuti*

finned to clinical trials. The intervention
necessitates a standard protocol, appro-
val by an institutional review board, and
appropriate informed consent outlining
the unknown benefit and known detri-
mental effects.

Activity Restriction Among Women With a Short Cervix

William A. Grobman, MD, MBA, Sharon A. Gilbert, MBA, PhD, Jay D. Iams, MD, Catherine Y. Spong, MD, George Saade, MD, Brian M. Mercer, MD, Alan T. N. Tita, MD, PhD, Dwight J. Rouse, MD, Yoram Sorokin, MD, Kenneth J. Leveno, MD, Jorge E. Tolosa, MD, MSCE, John M. Thorp, MD, Steve N. Caritis, MD, J. Peter Van Dorsten, MD, and for the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Maternal-Fetal Medicine Units (MFMU) Network*

646 pz

252 activity restriction

PTB:37%

$P < 0.001$

394 NO activity restriction

PTB:17%

CONCLUSION—Activity restriction did not reduce the rate of preterm birth in asymptomatic nulliparous women with a short cervix.

In donne con CL ridotta e gravidanza singola la restrizione dell'attività fisica non riduce e forse aumenta il rischio di parto pretermine

“Therapeutic” Bed Rest in Pregnancy

Unethical and Unsupported by Data

Christina A. McCall, MD, David A. Grimes, MD, and Anne Drapkin Lyerly, MD, MA

COCHRANE REVIEWS: LESSONS LEARNED

Indication	No. of Trials	No. of Patients	Primary Outcome: Results (RR, 95% CI)
Prevention of miscarriage ⁴	2	64	Miscarriage: (1.54, 0.92–2.58)
Hypertension during pregnancy ⁵	4	449	Severe hypertension: strict bed rest vs some rest: (1.18, 0.93–1.49) Some rest vs no rest: (0.58, 0.38–0.89)
Prevention of preeclampsia ⁶	2	106	Preeclampsia: 4–6 h of rest: (0.05, 0.00–0.83) 30 min of rest plus nutrition supplement: (0.13, 0.03–0.51)
Prevention of preterm birth (singleton) ⁷	1	1,266	Preterm birth: (0.92, 0.62–1.37)
Multiple gestation ⁸	7	1,448	Perinatal death: (1.06, 0.42–2.64)
		713	Preterm birth: (0.99, 0.86–1.13)
Impaired fetal growth ¹¹	1	107	Fetal growth: (0.43, 0.15–1.27)

(Obstet Gynecol 2013;121:1305–8)

For the prevention of preterm birth, current evidence does not support or refute the use of bed rest.



NIH Public Access

Author Manuscript

Expert Rev Obstet Gynecol. Author manuscript; available in PMC 2012 May 1.

Published in final edited form as:

Expert Rev Obstet Gynecol. 2011 July 1; 6(4): 385–393. doi:10.1586/eog.11.28.

Lack of evidence for prescription of antepartum bed rest

Judith A Maloni

Revisione dettagliata dei meccanismi con cui il bed rest produce danno

- a. Sistema cardiovascolare
- b. Sistema muscolo-scheletrico
- c. Emodinamica dei fluidi e degli elettroliti

Bed rest: Effetti avversi

- Tromboembolismo
- Demineralizzazione ossea
- Ipotonia muscolare
- Atelectasia polmonare
- S depressiva: ansietà, ostilità disforia
- Aumento dei costi

A causa dei potenziali effetti avversi che il bed rest può avere, sulla donna , sulla famiglia e sui costi, i clinici non dovrebbero routinariamente prescrivere il bed rest

Primum: non nocere

Bed rest: Non etico e non supportato dai dati

Ob Gyn 2014

What Is New in Bed Rest in Pregnancy?

Best Articles From the Past Year

Robert P. Lorenz, MD



This month, we focus on current research in bed rest in pregnancy. Dr. Lorenz discusses four recent publications, and each is concluded with a "bottom line" that is the take-home message. The complete reference for each can be found in Box 1 on this page, along with direct links to the abstracts.

(Obstet Gynecol 2014;124:377-8)
DOI: 10.1097/AOG.0000000000000399

Box 1. Abstracts Discussed in This Commentary

1. Grobman WA, Gilbert SA, Iams JD, Spong CY, Saade G, Mercer BM, et al. Activity restriction among women with a short cervix. *Obstet Gynecol* 2013;121:1181-6. Available at: <http://dx.doi.org/10.1097/AOG.0b013e3182917529>.
2. McCall CA, Grimes DA, Iyerly AD. "Therapeutic" bed rest in pregnancy: unethical and unsupported by data. *Obstet Gynecol* 2013;121:1305-8. Available at: <http://dx.doi.org/10.1097/AOG.0b013e318293f12f>.
3. Maloni JA. Lack of evidence for prescription of antepartum bed rest. *Expert Rev Obstet Gynecol* 2011;6:385-93. Available at: <http://dx.doi.org/10.1586/eog.11.28>.
4. Riggio JR Jr. Bed rest in pregnancy: time to put the issue to rest. *Obstet Gynecol* 2013;121:1158-60.

2014

1. In pz con ridotta CL: no riduzione PTB;
2. Bed rest non etico e non supportato da dati;
3. Si conoscono i meccanismi con cui il bed rest produce danno;
4. I medici prescrivono bed rest senza crederci

Bed rest: perché si continua prescriverlo"

- Inerzia nella pratica ostetrica
- Se non c'è trattamento ...almeno il medico ha fatto qualcosa nella percezione della paziente
- Non è un rischio per il feto

ma... demineralizzazione, ipotonia, depressione possono essere fattori causali di ritardo di crescita

Bed Rest in Pregnancy

Time to Put the Issue to Rest

OBSTETRICS & GYNECOLOGY VOL. 121, NO. 6, JUNE 2013

- Molti medici prescrivono la riduzione di attività fisica sebbene credano che non funzioni. Analisi dei costi: 2-7 miliardi \$.
- E' coinvolto più di un milione di famiglie all'anno

The recommendation for bed rest in the setting of arrested preterm labor and premature rupture of membranes

Nathan S. Fox, MD; Shari E. Gelber, MD, PhD; Robin B. Kalish, MD; Stephen T. Chasen, MD

Am J Obstet Gynecol 2009;200:165.e1-165.e6.

Variable	Arrested preterm labor		P value
	Recommend (n = 574)	Not recommend (n = 235)	
Age (mean, SD)	47.5 ± 9.6	46 ± 9.9	.04
Female sex (%)	42.2	37.4	.24
Years since residency (mean, SD)	16.6 ± 9.5	14.8 ± 9.8	.02
Nonacademic practice (%)	35.8	20.9	< .001
Region of practice (%)			.10
Northwest	26.1	30.6	
Midwest	18.3	23.4	
South	29.5	27	
West	25.5	18.9	

Variable	Premature rupture of membranes		P value
	Recommend (n = 691)	Not recommend (n = 107)	
Age (mean, SD)	47.1 ± 9.6	46.9 ± 10.5	.81
Female sex (%)	41.6	36.4	.34
Years since residency (mean, SD)	16.2 ± 9.5	15.6 ± 10.1	.52
Nonacademic practice (%)	34.1	15.7	< .001
Region of practice (%)			< .001

Qualcosa sta cambiando?

OBSTETRICS

Current practices in the prediction and prevention of preterm birth in patients with higher-order multiple gestations

Emily Baker, MD; Tiffany Hunter, MBBS; Nanette Okun, MD; Dan Farine, MD

TABLE

Comparison of guideline and Canadian maternal-fetal medicine practice

Intervention	ACOG (2004)	NICE (2011)	Hong Kong (2006)	Canadian MFM poll
Routine cerclage	-	-	-	- (100%)
Targeted cerclage	No comment	-	No comment	+ (71%)
Bed rest	-	-	-	- (90%)
Tocolytics	+/-	-	-	+ (80%)
Targeted corticosteroids	+	+	+	+
Untargeted corticosteroids	-	-	-	- (72%)
Routine TVUS	No comment	-	-	+ (80%)
Vaginal progesterone	No comment	-	No comment	Not asked

ACOG, American Congress of Obstetricians and Gynecologists; MFM, maternal-fetal medicine; NICE, National Institute for Health and Care Excellence; TVUS, transvaginal ultrasound; +, recommended; -, not recommended; +/-, use judiciously.

Baker. Prediction and prevention of preterm birth in higher-order multiple gestations. *Am J Obstet Gynecol* 2015.



An initiative of the ABLM Foundation

The American College of Obstetricians and Gynecologists



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Five Things Physicians and Patients Should Question

10

Don't routinely recommend activity restriction or bed rest during pregnancy for any indication.

Bed rest or activity restriction has been commonly recommended for a variety of conditions in pregnancy including multiple gestation, intrauterine growth restriction, preterm labor, premature rupture of membranes, vaginal bleeding and hypertensive disorders in pregnancy. However, information to date does not show an improvement in birth outcome with the use of bed rest or activity restriction, but does show an increase in loss of muscle conditioning and thromboembolic disease.



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 650 • December 2015

(Replaces Committee Opinion Number 267, January 2002)

Committee on Obstetric Practice

This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Physical Activity and Exercise During Pregnancy and the Postpartum Period



Scelta saggia

"Non prescrivere bed rest nella minaccia di parto prematuro"

Stesura e diffusione documento

Definizione: limitazione della deambulazione a non più di 1-2 ore al giorno con uso consentito della toilette e della doccia/bagno.

Stato dell'arte: la pratica della prescrizione del bed rest e della riduzione dell'attività fisica (1) nella minaccia di parto pretermine non si è dimostrata di alcuna efficacia nel miglioramento degli esiti materni e neonatali ma ha evidenziato un aumento della morbidità materna. In particolare alcuna efficacia è stata dimostrata nelle pazienti con cervicometria ridotta, con PPRM, con attività contrattile presente o pregressa (2-4)

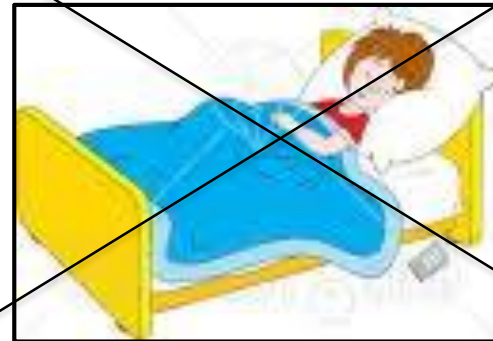
Stesura e diffusione documento

Epidemiologia della pratica Molti ostetrici prescrivono il bed rest sebbene la maggior parte di essi non si aspetti da questa pratica alcuna riduzione degli esiti avversi (5).

Complicazioni materne: Perdita di massa muscolare, di massa ossea, della capacità cardiovascolare (6-7). Rischio aumentato di trombosi venosa profonda e di altre patologie trombotiche quali l'embolia polmonare (8-9)

Messaggio: La SIMP è contraria all'uso del bed rest in gravidanza nella prevenzione del parto pretermine.

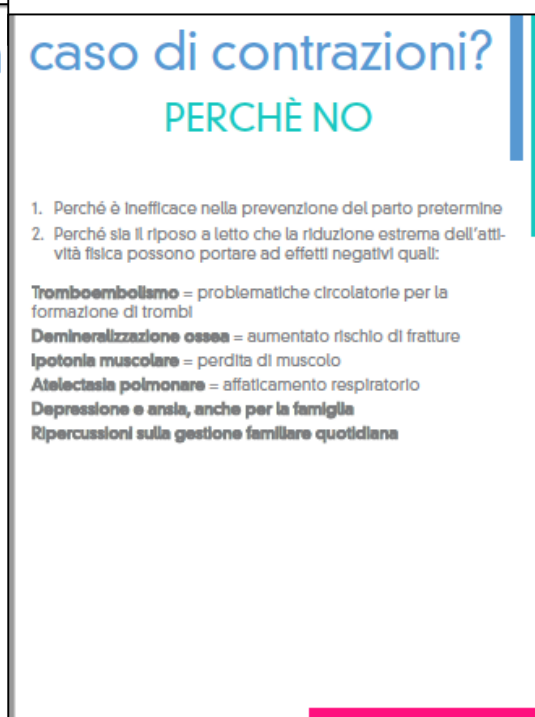
- Materiale informativo per le pazienti



Lato Paziente

Colori: SIMP

Diffusione: FERRING



Lato Medico

Colori: SIMP

BED REST?

Riposo assoluto a letto per la minaccia di parto pretermine

Le evidenze scientifiche dimostrano che non vi è beneficio del riposo a letto nelle donne in gravidanza per la prevenzione del parto pretermine.

Hobel C et al. Am J Obstet Gynecol. 1994;170:54-62

Unico studio randomizzato multicentrico

1.774 donne a rischio (Creasy):

- 432 bed rest
- 411 progesterone
- 407 supporti sotali
- 412 placebo
- 422 nessun intervento

PARTE PRETERMINE %

Gruppo di controllo	7,9%
Gruppo di intervento	8,5%

Inoltre, ci sono dei rischi aumentati di tromboembolia e ridotta mineralizzazione ossea.

Maloni JA. Expert Rev Obstet Gynecol. 2011 Jul 16(4):585-93

Rivisione dettagliata dei meccanismi con cui il bed rest produce danno (sistema cardiovascolare, sistema muscolo-scheletrico, emodinamica fudai ed altri)

Bed rest, avversi avversi:

- Tromboembolismo
- Demineralizzazione ossea
- Ipertrofia muscolare
- Atelectasia polmonare
- Sindrome depressiva (ansietà, ostilità, distorsione)
- Aumento dei costi

BED REST?

Riposo assoluto a letto per la minaccia di parto pretermine

IL BED REST NON È EFFICACE PER

Negli anni '90 comincia a vacillare la credenza che il bed rest possa essere efficace per prevenire il parto pretermine.

Goldenberg RL ET AL. Obstet Gynecol. 1994 Jul;84(1):131-4. Review

Conclusions: Bed rest is used extensively to treat a wide variety of pregnancy conditions, at substantial cost but with little proof of effectiveness. We recommend that because this intervention has failed the test of effectiveness, its use during pregnancy should be curtailed unless randomized trials demonstrate improvement in a specific outcome.

In donne con cervicometria ridotta e gravidanza singola la restrizione dell'attività fisica non riduce e forse aumenta il rischio di parto pretermine.

Grobman WA et al. Obstet Gynecol. 2015 Jun;121(6):1181-6

646 pz

352 activity restriction

PTB: 37%

394 NO activity restriction

PTB: 17%

Conclusions: Activity restriction did not reduce the rate of preterm birth (PTB) in asymptomatic nulliparous women with a short cervix.

NO



A causa dei potenziali effetti avversi che il bed rest può avere, sulla donna, sulla famiglia e sui costi, i clinici non dovrebbero routinariamente prescrivere il bed rest se non in presenza di indicazioni protocollate
McCall CA et al. Obstet Gynecol. 2015 Jun;121(5):1505-8

Don't routinely recommend activity restriction or bed rest during pregnancy for any indication.

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WOMEN'S HEALTH CARE PHYSICIANS



Physical activity and exercise during pregnancy and the postpartum period.

NO

PREVENIRE IL PARTO PRETERMINE

Nel 2014 una review ha esaminato i potenziali benefici e danni derivanti dal bed rest.

McCarthy-Singleton S et al. Clin Obstet Gynecol. 2014 Sep;57(3):416-27

Conclusions: ...The intervention necessitates a standard protocol, approval by an institutional review board, and appropriate consent outlining the unknown benefits and known detrimental effects.

Sempre nel 2014 un'altra review ha fornito il "take home message" sul bed rest nella prevenzione del parto pretermine.

Lopez RP. Obstet Gynecol. 2014 Aug;124(2 Pt 1):377-8

1. In pazienti con ridotta CL: no riduzione PTB
2. Bed rest non etico e non supportato da dati
3. Si conoscono i meccanismi con cui il bed rest produce danno
4. I medici prescrivono bed rest senza crederci

Diffusione

La SIMP ai referenti regionali:

- 1. Materiale bibliografico**
- 2. Documento (anche su sito)**
- 3. Materiale per pazienti**
- 4. Set di diapo (anche su sito)**

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**GRAZIE
PER
L'ATTENZIONE**