



# Physical activity during pregnancy and post partum

Parenting Awareness for Young people

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# 1. What is it being pregnant?

- Increased blood volume
  - Resting heart rate increases 10-15%
  - Cardiac output increases 30%-50%
  - Decreased vascular resistance, pulse rate and resistance.
  - Decreased blood pressure, that's why the first month they are more tired (it can be balanced with training)
  - Less breathing capacity - Diaphragm
  - Increased estrogens: fat and weight distribution
  - Progesterone: relaxation of the smooth muscle
  - Increased levels of relaxin, oxytocin, prolactin - antagonists during pregnancy
  - Increased resistance to insulin:
- ## **Gestational Diabetes**
- Position changes in female organs
  - Postural changes that will harm our muscles if they haven't been trained.
  - Modifications in the abdominal belt.

## 2. What are the benefits of training during pregnancy?

- Prevents the classical back aches
- Women who achieve good musculature will push easily in vaginal labour
- Prevents abdominal diastasis
- Decreases risk of gestational diabetes
- Improves cardiovascular and muscular capacity in the whole body
- Corrects body posture
- Improves pelvis mobility
- Improves sleep quality
- Helps control weight gain
- Faster recovering after childbirth
- Decreases risk of caesaria or instrumental labour
- Prevents pre-eclampsia

**(Dell Pruett & Caputo. 2011)(Mottola & McLaughlin, 2011)(Chasan-Taber et al., 2011)(ACOG,2015)**

### 3. When to train and when not to?

According to CSP (2018)

**ABSOLUTE CONTRAINDICATION** to train in groups (it is allowed to do it individually)

- Breaking of membranes
- Risk of premature labour
- Unexplicable bleeding
- Placenta previa
- Pre-eclampsia
- Cervical incompetence - FORBBIDEN
- Restriction of uterine growth
- Multiple pregnancy (triplets)
- Uncontrolled Diabetes type I
- Uncontrolled hypertension
- Uncontrolled thyroid disease
- Severe cardiovascular or breathing disease

### **3. When to train and when not to?**

According to CSP (2018)

**RELATIVE CONTRAINDICATION:** Decrease intensity in the first trimester in athletes, regular gym members train as usual

- Previous recurring abortions
- Gestational hypertension
- History of premature labour
- Cardiovascular or breathing disease
- Symptomatic anemia: weakness, tiredness...
- Malnutrition
- Eating disorders
- Twins pregnancy after week 28
- Important known diseases

## 4. General and specific recommendations

According to ACOG (2015) it is recommended:

- **PHYSICAL ACTIVITY:** At least between 20 and 30 minutes of moderate **physical activity** EVERYDAY or most days.  
Understanding physical activity as: any body movement produced by muscles that imply an energetic expense bigger than resting.
- **EXERCISE:** Strength training + Aerobic training.  
Referring to planned, structured and repetitive physical activity, that aims to maintain physical condition and health.

## 4. General and specific recommendations

According to ACSM (2016) it is recommended:

- **PHYSICAL ACTIVITY:** Same as ACOG
- **EXERCISE:** After doctor's approval, a pregnant woman can seek orientation of a qualified **health professional** to help her design a training programme.



## 4. General and specific recommendations

According to CSEP (2018-2019) it is recommended:

- **ALL women without contraindications should be physically active during the **WHOLE** pregnancy**
- 150 min/week of moderate physical activity: to achieve clinically significant benefits and reduction of pregnancy complications
- At least 3 days per week. But it is recommended to be active every day.
- Aerobic+Strength = more benefits + Yoga and Stretching (breathing/meditation)
- Muscular training of the pelvic floor to prevent urinary incontinence
- Women with dizziness, nausea or discomfort, avoid supine positioning

## 4. General and specific recommendations

### IMPORTANT TO REMEMBER:

Physical activity during pregnancy, minimises risks and shows women all the benefits that it delivers.

According to ACOG 2015 there's **NO EVIDENCE** for prescribing **ABSOLUTE REST**, so ALL women have to at least walk.

Risks of **EXTENDED ABSOLUTE REST**: thromboembolism, bone demineralization...

- **Women who trained before pregnancy without complications:** should continue training with moderate or even higher intensity
- **Women who did not train before pregnancy:** it is a good moment to start an active lifestyle

## 5. What to do?

- Foster a good body posture
- Prevent abdominal diastasis
- Minimising back ache
- Reduce stress levels
- Train pelvic floor

## 6. What to avoid?

- Diving
- Horse riding
- Skiing
- Valsalva
- Crunch
- Supine
- Activities in high heights or with risk of falling

# 7. How does the woman feel after childbirth?

- Physical changes: diastasis, image, muscle tone...
- Low energy levels
- Increase of costs
- Sleep lack or bad quality
- Taking care of the baby
- Programmed life: lactance, schedule...

# 7. How does the woman feel after childbirth?

## Most importantly: HOW WAS THE LABOUR?

- Vaginal
- Forceps
- Caesarea
- Epistomy

## LABOUR ASSOCIATED PATHOLOGIES (could be avoided training):

- Prolapse
- Urinary incontinence
- Sexual dysfunction
- Abdominal diastasis
- Post-partum depression
- Lower back and cervical pain

## **8. Core and Pelvic Floor**

It will be the most affected body part during pregnancy and post-partum. It is of central importance that, before starting to train, a physiotherapist specialised in Pelvic Floor assesses the mother.

**Work synergy between trainer and physiotherapist will be of vital importance.**

# 9. How can the woman be trained in post partum?

## PHASE 1 (from quarantine to 3 months)

- Physiotherapist PF + training
- Reestablishing breathing pattern
- Recognise and reconnect with PF
- Create synergy between abdominal belt and PF
- Postural work / hypopressives



# 9. How can the woman be trained in post partum?

## PHASE 2 (from 3 to 6 months)

- Movement basic patterns
- Preprogramme lumbopelvic belt
- Synergy between belt + PF
- CORE work in deep muscles

# 9. How can the woman be trained in post partum?

## PHASE 2 (from 6 months to 1 year)

- Increase of physical condition
- Bettering % of muscle mass
- Decrease % of fat
- Bettering cardiobreathing fitness level
- Core work in every plan if there isn't a bulging abdomen and introducing HIIT work always WITHOUT PRESSURE

# EXAMPLE OF PREGNANCY TRAINING

## 1. **Pelvic mobility** (IDEAL IN BOSU) - 12 repetitions using breath

- a. Anteversion and retroversion of the pelvis (back and forth)
- b. Pelvic swinging (from side to side)
- c. Circles
- d. Drawing an infinite symbol

# EXAMPLE OF PREGNANCY TRAINING

**2. TRAINING ROUTINE: 4 exercises + 1' cardio going up and down the stairs, 30" one leg + 30" the other leg: 40" exercise + 20" rest before the next exercise**



SQUATS

ROWING

MONSTER WALK

WALL PUSH-UPS

**REPEAT EVERYTHING TWICE**

# EXAMPLE OF PREGNANCY TRAINING

## 3. BASIC HYPOPRESSIVE SEQUENCE



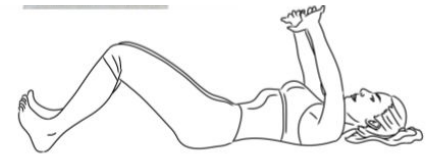
VENUS



MAYA



HESTIA



DEMETER

2 DEEP BREATHING INHALING THROUGH THE NOSE AND EXHALING THROUGH THE MOUTH, AFTERWARDS APNEA SUCKING IN FROM THE PELVIC FLOOR.