

NUTRITIONAL SUPPORT FOR NUTRITIONALLY AT-RISK PREGNANT AND BREASTFEEDING WOMEN AND GIRLS (PBWG)

MSF Intersectional Nutrition Platform, March 2026 (v3.0) – Internal protocol

Terminology

Nutritionally at-risk pregnant and breastfeeding women and girls (PBWG) – women and adolescent girls that, due to their poor nutritional status, are at increased risk of poor birth outcomes and further deterioration while breastfeeding and are thus most likely to benefit from nutritional supplementation.

The terms **Severe Acute Malnutrition** and **Moderate Acute Malnutrition** should not be used when referring to the nutritional status of PBWG. Nutritionally at-risk PBWG should be used instead.

Specially Formulated Foods (SFFs) are foods that have been specifically designed, manufactured, distributed, and used for special medical purposes special dietary uses. In MSF these have catalog codes beginning with **NFOS**.

CRITERIA for INITIATING NUTRITIONAL SUPPORT

Pregnant or Breastfeeding GIRLS (≤19 years):

ALL, regardless of nutritional status

(Note: If this is operationally unfeasible, criteria should be adjusted according to context.)

Pregnant or Breastfeeding WOMEN (>19 years):

IF MUAC <230^{1,2}



Initiate nutritional support, to be continued until the criteria for discontinuing nutritional support are met (see below). When initiated during pregnancy, support should continue throughout pregnancy regardless of MUAC.

REMARKS:

1) Any PBWG with **poor clinical status** should be referred for medical/obstetric evaluation (outpatient or inpatient depending on severity) and hospitalized when warranted.

2) All PBWG should have their MUAC measured at each available opportunity (e.g. each ANC/PNC visit, when hospitalized, upon delivering an infant, and when accompanying a child to OPD or nutrition service).

CRITERIA for DISCONTINUING NUTRITIONAL SUPPORT (no further nutritional intervention required)

Post-Partum³ and NOT breastfeeding:

42 days after delivery or early pregnancy loss⁴

Post-Partum³ and BREASTFEEDING:

42 days after delivery⁴, then:

→ WOMEN (>19 years):

MUAC ≥230 mm¹ (or cut-off used for initiating nutritional support), maximum 6 months post-delivery

→ GIRLS (≤19 years)

6 months post-delivery, regardless of MUAC (or until MUAC is the same as cut-off used for admission)

1. Although current evidence suggests the use of <230 mm, a cut-off of <210mm may occasionally be used per certain national protocols or according to specific contexts or operational strategies. The same cut-off should be used for initiating and discontinuing nutritional support.

2. MUAC tapes specifically for PBWG and infants <6 months are now available. See Annex 4 for the MSF code.

3. The post-partum period corresponds to 42 days after delivery or early pregnancy loss.

4. If available resources do not permit provision of SFF based nutritional support to all post-partum women and girls for the full 42 days, prioritize according to context (e.g. those with MUAC below cut-off, those that are breastfeeding, those that are ≤19 years old, those with peri-natal complications). In the case that SFF is discontinued, provision of MMS should be ensured up until the recommended 42 days.

NUTRITIONAL MANAGEMENT

PBWG should receive nutritional supplementation that provides Balanced Energy Protein (BEP) as well as essential micronutrients. **The aim of nutritional supplementation is to promote adequate maternal weight gain and healthy maternal and infant outcomes.**

FOOD SUPPLEMENTATION - the source of supplementation may depend on level of food security and availability of Specially Formulated Food options.

Supplementation with Nutrient-Dense Local Food - 1st choice, where available

(These options are not necessarily meant to be purchased or provided by MSF but can be used during patient counseling and/or cooking demonstrations).

Propose the following options for PBWGs to supplement their usual diet. Recommend consuming 2 servings per day - each option provides 250 kcal and 10 g protein per serving.

Options	Ingredients
Fortified Porridge	¼ cup (30g) maize/rice/cassava meal + 2 heaped tablespoons (30g) milk powder + ¾ cup (200ml) water for cooking (If lactose intolerant, replace the milk powder with 1 boiled egg)
Peanut Butter & Bread	1 slice bread, 1 small flat bread or ½ large flatbread + 1 heaped tablespoon (20g) peanut butter
Beans & Oil	¼ cup (50g) beans/legumes/lentils + water for cooking; after cooking drain and add 2 teaspoons (10ml) oil/butter/ghee/margarine
Banana Milk	1 cup milk/yoghurt/dairy-free alternative (if using milk powder 1/4 cup powder + 3/4 cup water) + 1 mashed banana

Supplementation with Specially Formulated Food – when supplementation with nutrient-dense local foods is not a realistic option.

As a supplement to the usual diet, provide rations containing 250-500 kcal and 14-18g protein through one of the following options:

REMARK: In a high-risk population, where the prevalence of low birth weight is higher, or when large protein and energy gaps exist (such as in an emergency context, or when seasonal access is low), the portion size could be doubled.

Preferred option (it meets the specific needs of PBWGs, providing BEP and micronutrients)⁵:

- LNS-PBWG: 1 sachet/day

Other preferred options (these provide BEP), preference according to availability:

- Super Cereal Plus: 100 g/day⁶
- Super Cereal: 100 g/day⁶
- RUTF Biscuit (BP-100): 2 bars/day
- Emergency food ration (BP-5): 2 bars/day

Alternative options (these do not provide BEP), in order of preference:

- RUSF peanut paste: 1 sachet/day
- RUTF peanut paste: 1 sachet/day

5. Cost per sachet of LNS-PBWG is similar to cost per sachet of RUTF.

6. Super Cereal Plus is usually supplied through donations from WFP, whose standard ration is 200 g/day to account for family sharing. The ration may also include sugar and oil depending on context.

MICRONUTRIENT SUPPLEMENTATION

IF providing LNS-PBWG:

→ No further supplementation is required (except Calcium in certain populations – see below).

IF providing one of the following:

- Food-based supplementation
- 1-2 rations/day of any Specially Formulated Food other than LNS-PBWG

→ Provide the following:

	Pregnant	Breastfeeding
Multi Micronutrients Supplement (MMS)* 1 tablet daily	REQUIRED	OPTIONAL - Can continue while breastfeeding if received during pregnancy

* If anaemic, replace MMS with prescribed anaemia treatment ^{7,8}. Resume MMS upon treatment completion.

FOR ALL, regardless of type of supplementation:

→ Provide the following:

	Pregnant	Breastfeeding
Calcium One 1.25 mg tablet (500 mg of elemental Calcium), 3 times daily	REQUIRED for all ≤19 years. RECOMMENDED for >19 years in populations with low dietary calcium intake	NOT required

For POST-PARTUM women and girls:

→ If taking neither LNS-PBWG nor MMS, provide Iron/Folic Acid according to haemoglobin levels^{7,8}. If haemoglobin cannot be measured provide Iron/Folic Acid (1 tablet daily) for 3 months post-partum⁷.

EDUCATION

All PBWG should be encouraged to eat a balanced diverse diet, eating from each of the food groups – fruits, vegetables, meat and other protein sources, cereal and grains, nuts and seeds and dairy. Quantity consumed should increase gradually as pregnancy progresses; the most significant nutritional needs are during the 3rd trimester and when breastfeeding.

REFERRALS

- * ALL PBWG should be enrolled in and attending ANC. Those who are not should be referred.
- * ALL mother/infant pairs should be evaluated to determine if infant is nutritionally at-risk (see ITFC/ATFC protocol for infants <6 months or use MAMI screening tool where available). Refer infant to a nutrition programme where indicated. If no need for infant referral to a nutrition programme, mother/infant pair should be referred to IYCF services where available.

FOLLOW-UP

Follow-up should be arranged every month during pregnancy to ensure continued weight gain, and while breastfeeding to ensure that any nutritional or medical issues/needs are addressed.

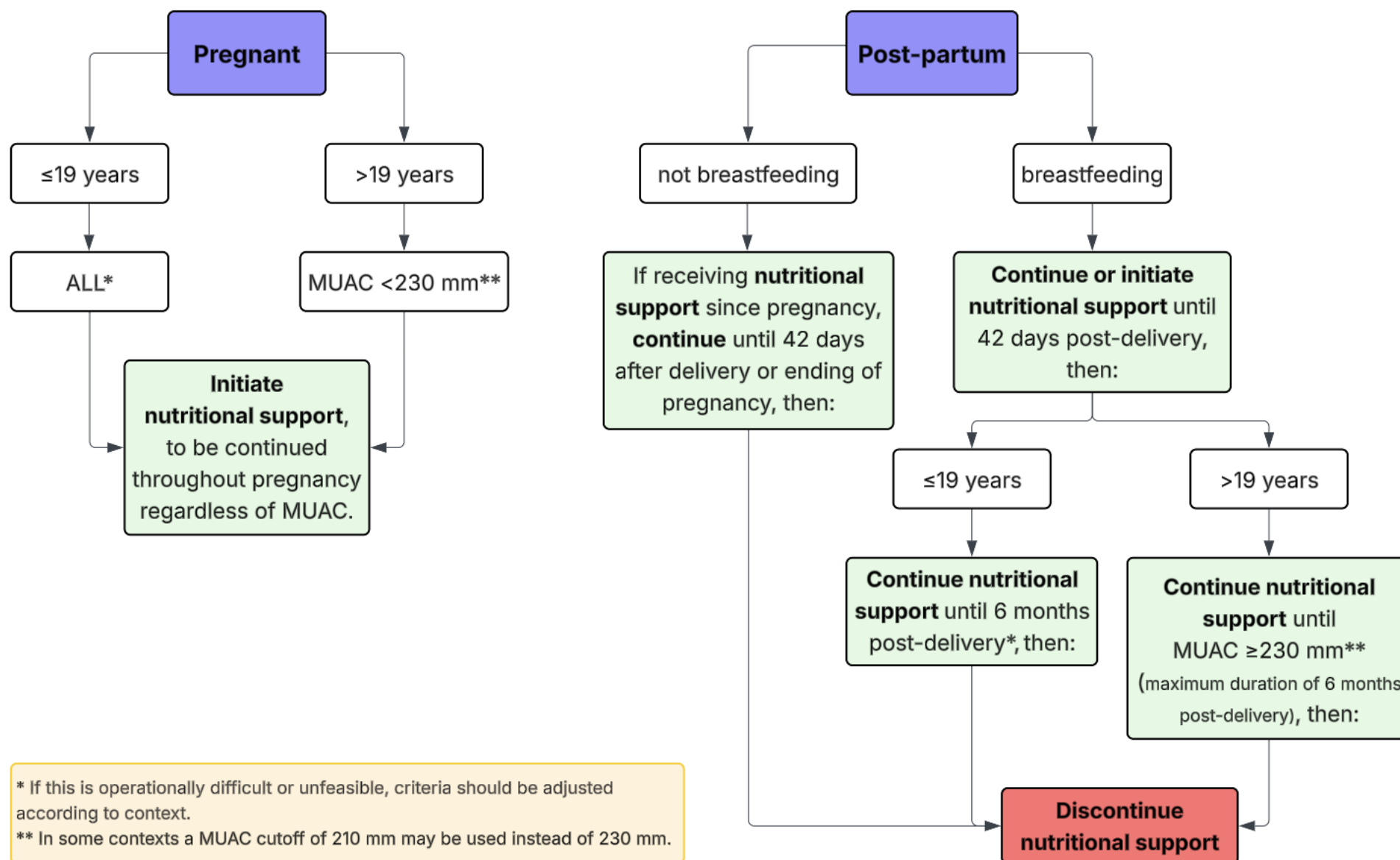
7. Refer to MSF Essential obstetric and newborn care guideline, section 4.1.2.

8. If PBWG is on food-based nutrition support and receiving Iron/Folic Acid rather than MMS, ensure adequate B12 intake through diet (generally achieved by consuming some animal-based protein) to prevent pernicious anaemia.

ANNEX 1. REFERENCES

1. Donnelly A. Review of the use of balanced energy protein (BEP) for pregnant and breastfeeding women and girls (PBW/G). Global Nutrition Cluster & United Nations World Food Programme. October 2023.
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7. Vervess MT. Identification of acute malnutrition, adverse birth outcomes, and nutritional care for pregnant, lactating women in emergencies for protracted crises. *MSF.* May 2011.
8. Vervess MT, Antierens A, Sackl A, Staderini N, Captier V. Which anthropometric indicators identify a pregnant woman as acutely malnourished and predict adverse birth outcomes in the humanitarian context? *PLoS Curr.* 2013;5.
9. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience [Internet]. Geneva: World Health Organization; 2016 [cited 2024 Oct 10]. Available from: <https://iris.who.int/handle/10665/250796>.

ANNEX 2. DECISIONAL TREE FOR INITIATING AND DISCONTINUING NUTRITIONAL SUPPORT FOR PBWG



ANNEX 3. NUTRIENT CONTENT OF SPECIALIZED FORTIFIED FOOD OPTIONS

Insufficient

Sufficient

Sufficient BUT over limit if >2 X dose

	Suggested for single dose of 250-500 kcal		Upper Limit	Specially Formulated Food Options													Micronutrients	
				LNS-PBWG	SuperCereal Plus	SuperCereal Plus + MMS	SuperCereal	SuperCereal + MMS	RUTF biscuit	RUTF + MMS	BP5	BP5 + MMS	RUSF	RUSF + MMS	RUTF paste	RUSF + MMS	MMS	Iron/FA
	Lower Spec	Upper Spec		1 sachet	100 g	100 g	100 g	100 g	2 bars	2 bars	2 bars	2 bars	1 sachet	1 sachet	1 sachet	1 sachet	1 dose	1 dose
Energy (kcal)	250-500			408	400	400	387.9	387.9	600	600	520	520	540	540	500	500		
Protein (g)	14-18			15.2	16	16	14.6	14.6	16.4	16.4	16	16	12	12	12.8	12.8		
Fat (g)	3-33			27.2	9	9	7.1	7.1	35.2	35.2	38	38	34	34	30.3	30.3		
Calcium (mg)	500	1000	2500	500	420-660	420-660	587.5	587.5	534	534	684	684	535	535	302	302		
Fluoride (mg)			7									0						
Iodine (mcg)	209	290	450	209	60-140	210-290	40	190	56	206	114	264	100	250	98	248	150	
Iron (mg)	22	27		22	9-14.8	39-44.9	10.8	40.8	11.4	41.4	12	42	10	40	10.3	40.3	30	60
Mg (mg)	145	350	250	67					114	114	136	136	150	150	80	80		
Mn (Mg)	2.1	2.6		0.6								0						
P (mg)	300	700		300	400-560	400-560			534	534	684	684	450	450	243	243		
K (mg)	2000	5000			650-1050	650-1050	599.2	599.2	976	976	286	286	900	900	1171	1171		
Se (µg)	60	70	200	60		65		65	28	93	28	93	45	110	28	93	65	
Na (mg)				38					330	330	18	18	270	270	165	165		
Zn (mg)	15	20	40	15	8-14	23-29	5	20	13.6	28.6	12	27	11	26	11.8	26.8	15	
B7 Biotin (µg)	28	35			10	10	8.2	8.2	80	80	72	72	60	60	56	56		
Choline (mg)	220	550																
B12 Cobalamin (µg)	2.4	2.8		2.4	2	4.6	2	4.6	1.8	4.4	2	4.6	2.7	5.3	1.5	4.1	2.6	
B9 Folate (µg)	400	600	600-1000	400	160	560	65	465	256	656	148	548	330	730	184	584	400	400
B2 Riboflavin (mg)	1.3	1.6		1.3	1.6	3	1.4	2.8	2	3.4	2.4	2.4	2.1	3.5	1.5	2.9	1.4	
B1 Thiamine (mg)	1.2	1.4		1.6	0.4	1.8	0.2	1.6		1.4	0.6	2	1	2.4		1.4	1.4	
Vit A (µg)	550	770	2000-3000	550	800-1250	1600-2250	800-1250	1600-2250	1000	1800	440-770	1240-1570	700-1600	1500-2400	790	1590	800	
B6 Pyridoxine (mg)	1.7	2	15	1.7	0.9	2.8	1	2.9	0.8	2.7	1	2.9	1.8	3.7	0.55	2.45	1.9	
Vit C (mg)	100	120		100	60	130	90	160	62	132	46	116	80	150	46	116	70	
Vit D (µg)	10	15	100	10	8-24	13-29	11.04	16.04	20	25	4	9	15	20	14	19	5	
Vit E (mg)	16	19	220	24	8	18	8.3	18.3	30	40	8	18	16	26	18.4	28.4	10	
Vit K (µg)	72	90		72	20	20	30	30	24	24			27	27	14.4	14.4		

ANNEX 4. PRODUCTS FOR PBWG NUTRITION CARE

Product Name	Catalog Number	Examples
SPECIALLY FORMULATED FOODS		
LNS-PBWG	NFOSLNPBPEP75	
Emergency food ration	NFOSEMFRCEB50	
RUSF peanut paste	NFOSRUSFPEP10	
RUTF biscuit (BP100)	NFOSRUTFCEB51	
RUTF peanut paste	NFOSRUTFPEP92	
Super Cereal (1.5kg sachet or rarely 25kg sachets)	codes starting with NFOSSCER	NFOSSCERCSF01-NST (corn soya) NFOSSCERCWSF01-NST (wheat soya)
Super Cereal Plus (1.5kg sachet)	codes starting with NFOSSCEP	NFOSSCEPCMF01 (corn soya) NFOSSCEPWMF01 (wheat soya) NFOSSCEPRMF01 (rice soya)
MICRONUTRIENT SUPPLEMENTS		
Calcium	DORACALC5TC	
Iron / Folic acid	DORAFERF14T	
Multi Micronutrients Supplement (MMS)	DORAMMNS1T-	
OTHER		
Mother-Infant Mid-Upper Arm Circumference (MUAC) tape – will be available with 230mm and 210mm cut-offs, in EN/FR/AR	codes starting with EANTBRAB	EANTBRAB23MIE (230mm cut-off, EN)