



# Internship of Resident Pharmacists in Neonatology Care Unit at ULSSA: A Collaborative Approach



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## WHY WAS IT

**DONE** ✓ ?

✓ Improve the Pharmaceutical Residency (PR) and support Neonatal medical team by addressing their needs.

- ✓ In the PR one of the longest functional area is pharmacotechnics, which includes the handling of sterile and non-sterile medicines. At the Unidade Local de Saúde de Santo António (ULSSA), which includes the Centro Materno Infantil do Norte (CMIN), this type of preparation is crucial due to the type of population it serves — pediatrics and neonatology.
- ✓ The **Resident Pharmacists (RP)** had the opportunity to complete a one-month **internship in the neonatology unit (NU)**, where, in addition to familiarizing with the unit's routine, they assisted with various needs of the service.

## WHAT WAS

**DONE** ✓ ?

## HOW WAS IT

**DONE** ✓ ?

✓ The schedule was coordinated between the Pharmaceutical Services (PS) and the NU to ensure this was the most productive time for both parties. During shift changes (night-morning and morning-afternoon shift), any issues from the previous period were discussed. When these topics involved the FS, the PR provided assistance.

✓ During their presence in NU, RP were able to intervene in several key areas, including:

1. **Expediting Pharmacy and Therapeutics Committee authorizations:** Everolimus - for a neonate with rhabdomyoma;
2. **Managing the logistics for obtaining non-commercialized medication in Portugal:** Erythromycin oral suspension for prokinetic use;
3. **Supporting clinical decisions regarding the prescription of parenteral nutrition bags;**
4. **Updating medical's prescription system for dressing materials:** Maltodextrin powder dressings;
5. **Paradigm Shift in parental nutrition:** greater preference for commercial parenteral nutrition bags\* instead of personalized nutrition bags (Table 1);
6. **Creating a spreadsheet for prescribing protein supplements** (Table 2).

## WHAT HAS BEEN

**ACHIEVED?** ✓

Table 1 - Number of commercial parenteral nutrition bags\* consumed per year

Year	Consumption (units)
2023	≈ 20
2024	≈ 300
2025 (January)	≈ 50

Table 2 - Excel spreadsheet for prescribing protein supplements, according to milk nutrition

Weight (kg)	1,000						
Total body water (TBW) desired (mL/kg/dia)	110						
Discounted medication (mL/dia)	0						
Calculated milk (mL/dia)	110						
Quantity of milk/meal	9,2						
No. of meals/day	12						
Target protein intake/kg/day (g/kg/day)	4	Ref: 3,5 - 4*					
Aporte proteico/dia (g/dia) no LMNF	0,9						
Protein intake to be supplemented (g/day)	3,1						
HMF Amount (g)	1,4						
Amount of protein (g) OPS	1,7						
OPS Powder (g) - sachet	2,1						
Amount (mg) OPS/meal	172						

  

Product		Energy (kcal)	Protein (g)	Na (mg)	K (mg)	Cl (mg)	Ca (mg)	
Donor Human Milk (DHM**)	/100 mL	var	0,8					
Oral protein supplementation (OPS)		338	82,1	776	1226	66	524	
Human Milk Fortification (HMF)	/100 g	1810	32,5	824	575	625	1734	
Commercial Milks Formulas (CMF)	Aptamil HA	/100 mL	66	1,5	33	88	50	60
	Nan/Aptamil 1		66	1,3	22,1	83	55	58
	Nutramigen		68	1,88	32	82	65	76
	Pre-nan		80	2,9	4,8	115	72	119
	Neocate		67	1,8	29,3	72,9	53	77,1
	Kindergen		100	1,5	46,1	23,9	16,9	46

\*\* in case of no analytical determination, assume energy 63 kcal/100mL and protein 1 g/100 mL

## WHAT NEXT

**?** →

- ✓ This collaboration has fostered a stronger **connection between pharmaceutical and clinical services** and underscores the vital role of **multidisciplinary teams in healthcare**, where experts from different fields contribute with their specialized knowledge. Such collaboration not only enhances patient outcomes but also optimizes workflows by reducing service duplication, increasing productivity and **saving valuable time**.
- ✓ In the future it is expected **continue this collaboration**.



[1] www.ordemfarmaceuticos.pt/pt/publicacoes/manuais/guia-do-farmacutico-residente-2023/ (accessed 3/10/2024)

[2] www.gethealthie.com/blog/benefits-of-multidisciplinary-care-teams-for-patients (accessed 4/10/2024)

\*Numeta®