It is very important for us to updates our knowledge and to know new nutritional guidelines. But is it sufficient..? Because the implementation of the updated nutritional guidelines especially for critical care patients is most difficult in developing countries hospital where resources are limited. To understand this we need to go step by step.

The International Society of Parenteral Nutrition (ISPN), had been founded in 1966 to discuss the scientific work arising from the rapid development in Europe of parenteral nutrition in the late 50s and early 60s.The spreading interest in parenteral nutrition in the US in the 60s eventually led to the establishment of the American Society of Parenteral and Enteral Nutrition (ASPEN) in 1977.ISPN had to redefine its role to better target the needs of those involved in clinical nutrition in Europe and it was decided that there was a need for a scientifically-orientated organization providing a common ground for European scientists from many disciplines involved in nutritional support. So ESPEN had been founded in 1980.

Since 1997, ESPEN publishes guidelines and position papers on a regulatory basis in Clinical Nutrition. In 2006 ESPEN Guidelines on adult enteral nutrition came. These guidelinesdo provide evidence-based information about specific problems like timing, dosing, composition androute of application. They also show where additional studies are needed and under which conditions limitation or withdrawal of nutritional supportlike other therapies might be adequate.

Earlier blederised feed was given to patients those are not able to eat, for that we required a liquid secession and a lot of other things to maintain quality.We knew that the use of blenderized formula for enteral nutrition can lead toinconsistent and imprecise delivery of macro and micro nutrients (1, 2, 3),thus exposing patients to the risk of bacterial infection (1, 5).The use of “natural” food in blenderized formulas causes amajor variance in nutrients and bacterial contamination ascompared to reconstituted industrial powder formulas ormodular formulas.(1)After that formula feed started to reduce infection.(6)

Continuous feeding took place of bolus feeding to improve tolerance level and to achieve better nutritional goal.And now ready to hang is available in developing countries to ease nutritional support in critical care. (12) Now implementation is easy as compare to earlier.

In developing country most of the hospitals don’t have liquid secession where feed can prepare for patients to give continuous feeding to hang more than 4 hours (11).

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As we knew that with bolus feeding other problems are there like intolerance, more nursing time, less achieve nutritional goal, less hygienic(11,12,15,16).

So ready to hang is the only option but this is costly. Here I am sharing a plan to resolve all this.

- We need a SOP for all patients to maintain equal quality.
- We need SOP for Nutritional Screening andAssessment.
    - All ICU admissions, should be screened to assess their need for nutrition support.(17,18,19,20,21) Recommend nutrition support within 24 to 48 hours of ICU admission (or once hemodynamically stable) for:
        - Undernourished or hypercatabolic patients (18-20).
        - Ill patients expected to stay in ICU for 3 days or more (20).
        - Patients not expected to commence diet within next 5 days or more (17).
    - A ‘nutrition risk in the critically ill score’ (NUTRIC Score) has recently been validated for screening ICU patients. Further validation studies are needed (22).
- SOP for starting feed (TPN/EN), where we can use ESPENguidelines
    - EN should start within 24 hours.(10)
    - A PEG tube may be utilized for feedings withinseveral hours of placement:current literaturesupports within 2 hours in adults and 6 hours in infants and children. (13)
    - All patients who are not expected to beon normal nutrition within 3 days should receive PN within24–48 hour if EN is contraindicated or if they cannot tolerate EN.(9)
- SOP for calculating nutritional requirement.
    - 25 to 35 Kcal/Kg body weight /day or BEE(Basal Energy Expenditure) * Injury Factor
    - 2 to 2 gm / Kg body weight /day.
- SOP to achieve nutritional goal in first 24 hours.
    - 80 % nutritional requirement needs to achieve in first 24 hours.
- SOP to give special formulas like glutamine, L- arginine, omega 3 fatty acid, zinc etc(17, 19, 21, 23, 24).
- We need to make a Nutrition Support Team (NST) to update SOP and giving training and keeping an eye on implementation of these policies etc.

This is action plan for tube feeding patients which is best suitable for limited resources hospital:

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S. No.	Points	Action Decided	Responsible Person
1	How to achieve target nutrition goal in first 24 hour after admission for tube feeding patients.	For tube feeding patients for the first 24 hours	Dietician/Consultants/ ICU and Emergency Doctors.
		After admission within one hour route of feed should be decided by the primary consultant/attending doctor/dietician.	
		Within two hours after admission enteral feed should be started if there is no contraindication.	
		For the first 24 hours Tube feed patients start polymeric formula RTH 1000ml/24 hours with a speed of 40ml/hour which gives 1500kcal and 60 gm protein. (12)	Dietician / Doctor.
		After 24 hour as per patients reports dietician /primary doctor will decide feed formula/liquid/calorie/protein etc.	
2	How to save nursing time in ICU as they are giving feed 2 nd hourly 8 times to patients which took min 25 to 30 min each time (4 hours/day)	To save nursing time during busy hours which is morning time. Instead of giving bolus feeding continuous feeding can be given through RTH for suitable patients (those who are on normal polymeric feed).	Dietician/Consultants/ ICU and Emergency Doctors
		RTH 500 ml 4 am to 2 pm 50ml-100ml /hour (700-1400drops/hour*) (12- 24 drops/min)	
		After completing one RTH same bottle can be used for the remaining feed by preparing with dry powder feed for the next 4 hours (11) and can give continues instead of giving bolus feed. (To reduce cost)	NST/ consulting doctor and dietician.
		RTH can be used in the nighttime to achieve the nutritional goal of patients who were kept NPO for various reasons and are not able to achieve a nutritional goal. *1ml RTH = 14 drops	

REFERENCES:

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1. CristhianeMitne, R.D.; Ana Maria Gomes Simões, R.D.; Débora Wakamoto, R.D.; Giselle Pedral De Liori, R.D.; Mary Sullivan, M.P.H., R.D.; Gail M. Comer, M.D. Analysis of Blenderized Enteral Diets. Journal of Clinical Nutrition, 2001, volume 16, pg 100-109.
2. Anderton A. Reducing bacterial contamination in enteral tube feeds. Br J Nurs 1995; 4:368-77.
3. Tanchoco CC, Florentino RF, Castro MCA, Belmonte BN, Natividad AS. Survey ofblenderized diets prepared by some hospitals in metro Manila: Phase II. Nutrient composition of blenderized diets. Hospital Journal 1990; 2:17-26.
4. Anderton A. The potential of Escherichia coli in enteral feeds to cause food poisoning: A study under simulated ward conditions. J Hosp Infect 1984; 5:155-63.
5. Schroeder P, Fisher D, Volz M, Paloucek J. Microbial contamination of enteral feeding solutions in a community hospital. JPEN 1983; 7:364-8.
6. Gallagher-Allred CR. Comparison of institutionally and commercially preparedformulas. Nutritional Support Services 1983; 3:32.
7. Gibbs J. Bacterial contamination of nasogastric feeds. Nursing Times 1983; 79:41-7.
8. Heyland DK, Dhaliwal R, Jiang X, Day AG. Identifying critically ill patients who benefit the most from nutrition therapy: the development and initial validation of a novel risk assessment tool. Critical Care. 2011; 15(6):R268.
9. Singer et al. ESPEN Guidelines on Parenteral Nutrition: Intensive care/ Clinical Nutrition 28 (2009) 387–400.
10. G. Kreymann et al. ESPEN Guidelines on Enteral Nutrition. Clinical Nutrition (2006)25, 210–223.
11. Bankhead et al. Enteral Nutrition Practice Recommendations/Powdered, reconstituted formula, HBM, and EN formula with additives should have a 4-hourhang time. (C)Journal of Parenteral and Enteral Nutrition / Vol. 33, No. 2, March/April 2009.
12. Bankhead et al. Enteral Nutrition Practice Recommendations/ Closed-system EN formulas can hang for 24-48hours per manufacturer’s guidelines. (A) Journal of Parenteral and Enteral Nutrition / Vol. 33, No. 2, March/April 2009.

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