

Balancing care

Ethics in Pediatric
Nutrition Practice



Presenting:
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FAND FASPEN





disclosures

Received an honorarium for this presentation

The opinions reflected in this presentation are those of the speaker and independent of Nutricia North America

Learning Objectives

Upon completion of this session attendees shall be able to:

State how the code of ethics applies to pediatric nutrition practice

Describe how scope of practice impacts pediatric nutrition practice

Identify some challenges in communicating nutrition diagnoses in pediatrics

Discuss opportunities to enhance our approach to ethics in pediatric practice

Ethics in healthcare

- refers to a set of principles that guide decisions about patient care, prioritizing the patient's well-being, based on core principles: beneficence (doing good), nonmaleficence (do no harm), justice, and autonomy (patient's right to make decisions)



The Code of Ethics for the Nutrition and Dietetics Profession

Adapted from The Code of Ethics for the Nutrition and Dietetics Profession.
Accessed 3/25/25. <https://www.eatrightpro.org/-/media/files/eatrightpro/practice/code-of-ethics/codeofethicshandout.pdf?rev=831aac4f9288461483f9234284833fce>

eat right. Academy of Nutrition and Dietetics

Code of Ethics for the Nutrition and Dietetics Profession



The Academy of Nutrition and Dietetics (Academy) and its credentialing agency, the Commission on Dietetic Registration (CDR), believe it is in the best interest of the profession and the public it serves to have a Code of Ethics in place that provides

How the code of ethics applies to pediatric nutrition practice

- 4 principals / 32 standards
 - Non-maleficence
 - Competence and professional development in practice
 - Autonomy
 - Integrity in personal and organizational behavior and practice
 - Beneficence
 - Professionalism
 - Justice
 - Social responsibility for local, regional, national and global nutrition and well-being

How the code of ethics applies to pediatric nutrition practice

Nutrition and dietetics practitioners shall:

- Demonstrate in depth scientific knowledge of food, human nutrition and behavior.
- Practice using an evidence-based approach within areas of competence, continuously develop and enhance expertise, and recognize limitations.

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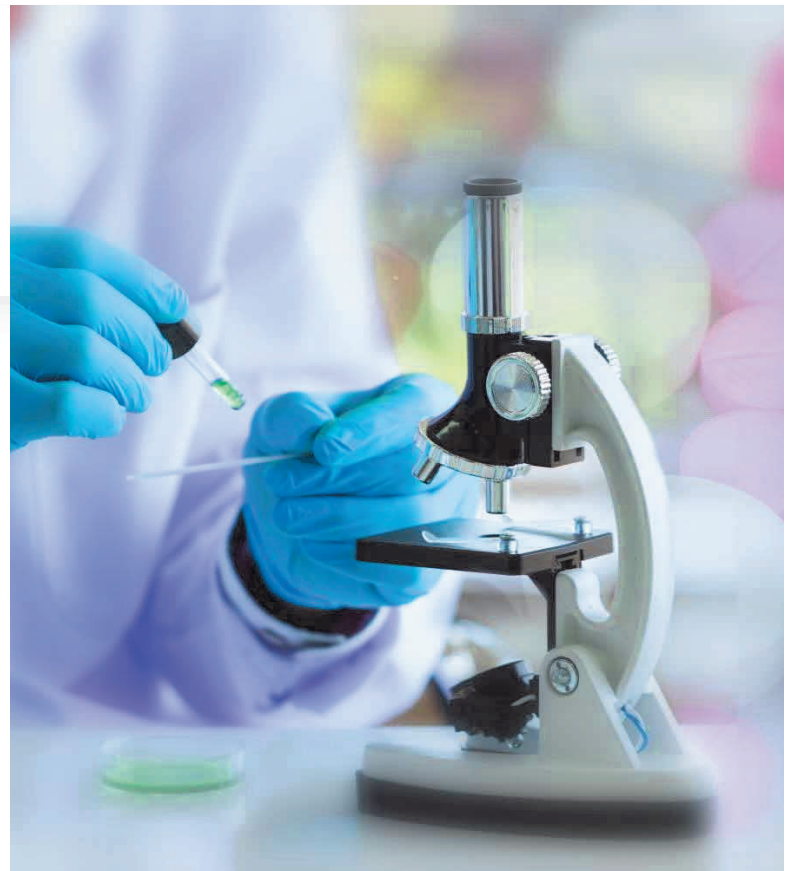
How the code of ethics applies to pediatric nutrition practice

Nutrition and dietetics practitioners shall:

- Assess the validity and applicability of scientific evidence without personal bias.
- Interpret, apply, participate in and/or generate research to enhance practice, innovation, and discovery.
- Make evidence-based practice decisions, taking into account the unique values and circumstances of the patient/client and community, in combination with the practitioner's expertise and judgment.

Nutrition and dietetics practitioners shall:

- Assess the validity and applicability of scientific evidence without personal bias.



What is bias?

- **Bias** is "the action of supporting or opposing a particular person or thing in a way that allows personal opinions to influence your judgment"
- **Explicit bias** refers to attitudes and beliefs (positive or negative) that we consciously or deliberately hold and express about a person or group.

What is bias?

- **Implicit bias** includes attitudes and beliefs (positive or negative) about other people, ideas, issues, or institutions that occur outside of our conscious awareness and control, which affect our opinions and behavior.
- **Confirmation bias** is our tendency to seek and interpret information and other evidence in ways that affirm our existing beliefs, ideas, expectations, and/or hypotheses.
- Confirmation bias is affected by our implicit biases.

Nutrition and dietetics practitioners shall:

- Assess the validity and applicability of scientific evidence without personal bias.

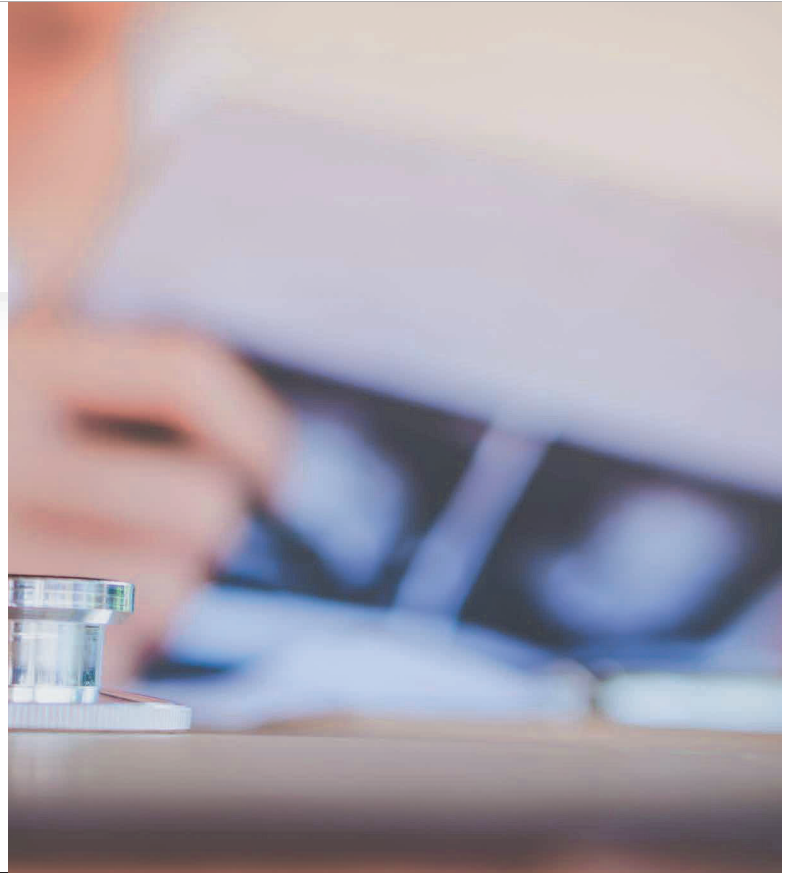


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How the code of ethics applies to pediatric nutrition practice

Nutrition and dietetics practitioners shall:

- Recognize and exercise professional judgment within the limits of individual qualifications and collaborate with others, seek counsel, and make referrals as appropriate.
- Act in a caring and respectful manner, mindful of individual differences, cultural, and ethnic background.
- Practice within the limits of their scope and collaborate with the inter-professional team.

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Personal Awareness / Cultural Awareness/ Ethical Awareness



Personal Awareness/Cultural Awareness/ Ethical Awareness

- Who we are as clinical practitioners?
- What are our biases?
- What is our form of learning/understanding?
- What does the patient/family/guardian need?
- What is their form of learning/understanding?
- Where are they in the learning and needs process?
- What are the tenets of Ethics and how do they apply to treatment?

How the code of ethics applies to pediatric nutrition practice

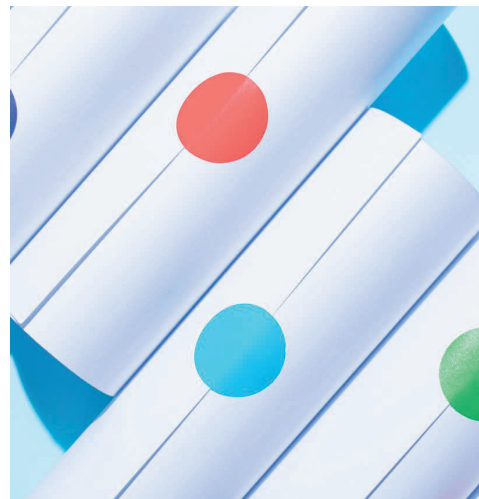
Nutrition and dietetics practitioners shall:

- Maintain and appropriately use credentials.
- Comply with all applicable laws and regulations, including obtaining/maintaining a state license or certification if engaged in practice governed by nutrition and dietetics statutes.



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How the code of ethics applies to pediatric nutrition practice

Nutrition and dietetics practitioners shall:

Participate in and contribute to decisions that affect the well-being of patients/clients.

Communicate at an appropriate level to promote health literacy.

Contribute to the advancement and competence of others, including colleagues, students, and the public.

Nutrition and dietetics practitioners shall:

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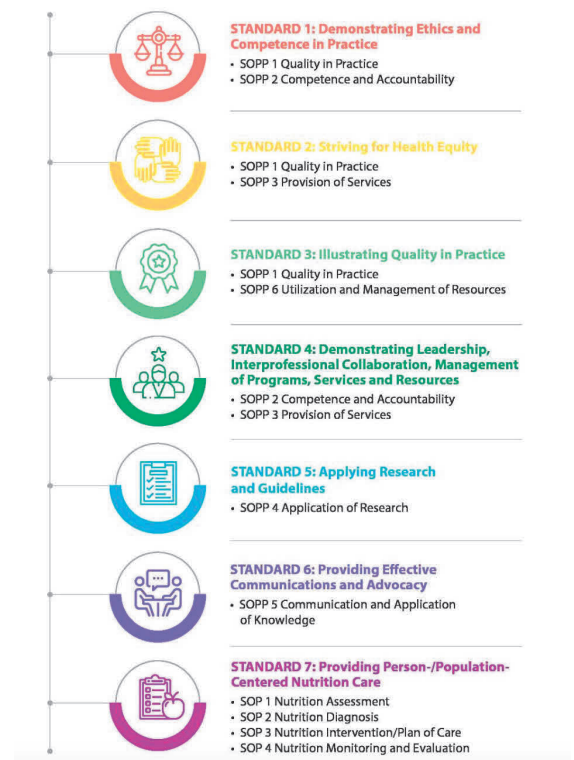


Revised 2024 Scope and Standards of Practice for the Registered Dietitian Nutritionist

Commission on Dietetic Registration

the credentialing agency for the
eat right. Academy of Nutrition and Dietetics

Why do we care about SSOP in pediatric nutrition?



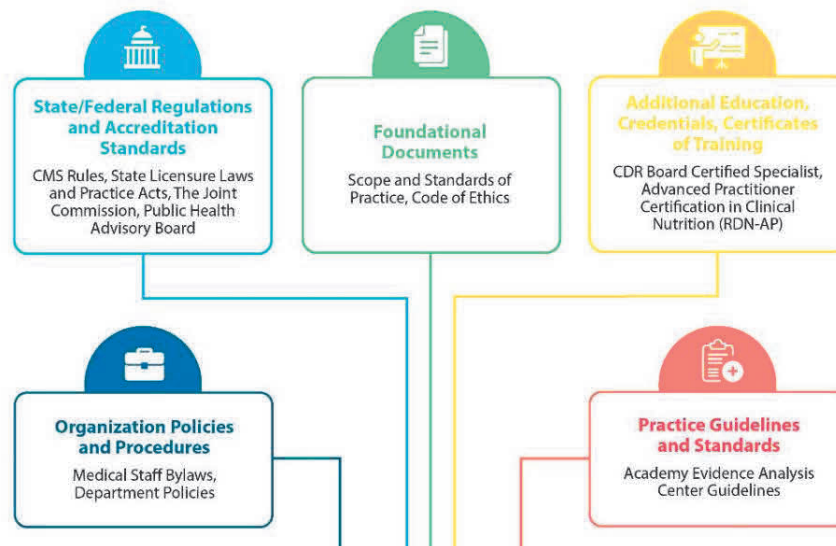
Revised 2024 Scope and Standards of Practice for the Registered Dietitian Nutritionist. Commission on Dietetic Registration Scope and Standards of Practice Task Force. www.cdrnet.org/scope. Accessed 3/25/25

The standards provide:

- A description of minimum competent levels of practice and performance;
- common measurable indicators for self-evaluation;
- a foundation for public and professional accountability in nutrition and dietetics care and services;
- an explanation of the role of nutrition and dietetics and the unique services that RDNs offer within the health care team and in practice settings beyond health care;
- guidance for policies and procedures, job descriptions, competence assessment tools; and academic and supervised practice objectives for dietetics education programs.

Revised 2024 Scope and Standards of Practice for the Registered Dietitian Nutritionist. Commission on Dietetic Registration Scope and Standards of Practice Task Force. www.cdrnet.org/scope. Accessed 3/25/25

There are the rules:



Revised 2024 Scope and Standards of Practice for the Registered Dietitian Nutritionist. Commission on Dietetic Registration Scope and Standards of Practice Task Force. www.cdrnet.org/scope. Accessed 3/25/25

How scope of practice impacts pediatric nutrition practice

Each RDN has an individual scope of practice that is comprised of the following:

- Scope and Standards of Practice for the RDN
- State Laws (licensure, certification, title protection)
- Education (initial and ongoing continuing education) and Credentials
- State Regulations and Interpretive Guidelines
- Accreditation Organizations Standards
- Organization Policies and Procedures
- Additional RDN-specific training/credentials/certifications

Empathy and ethics



RESEARCH Scoping Review



Empathy in Nutrition and Dietetics: A Scoping Review



Emma de Graaff^{*}, Christie Bennett, PhD, GradCertHealthProfEduc^{*}, Janeane Dart, PhD, GradDipNutDiet, GradCertAcadPract

ARTICLE INFORMATION

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<https://doi.org/10.1016/j.jand.2024.04.013>

^{*}Both authors share equal authorship of this article.

ABSTRACT

Background Empathy is fundamental to the provision of efficacious patient-centered health care. Currently, there is no comprehensive synthesis of peer-reviewed empirical research related to empathy in the nutrition and dietetics profession. Understanding empathy in the context of nutrition and dietetics care may lead to improved teaching practices that support nutrition and dietetics students and practitioners to provide high-quality, empathic, patient-centered care.

Objective This scoping review aimed to understand the approaches through which empathy is conceptualized, measured, and taught in the field of nutrition and dietetics.

Methods Using the Preferred Reporting Items for Systematic reviews and Meta-Analyses-Scoping Reviews Statement and Checklist, a scoping review process was undertaken. Five databases were searched in February 2023: Cumulative Index to Nursing and Allied Health, Embase, Medline, PsycInfo, and Scopus, with no date limits. Eligible studies were English language-based, peer-reviewed, empirical research exploring or measuring empathy as an outcome in primary data stratified to nutrition and dietetics. Extracted qualitative data were synthesized and analyzed thematically with an inductive, interpretivist approach applied to conceptualize the interrelationship between empathy and dietetic practice. Quantitative data were extracted and summarized in a table.

Results Twenty-six studies were included in the scoping review. Analysis identified 3

Empathy in Nutrition and Dietetics: A Scoping Review: de Graaff, Emma et al. Journal of the Academy of Nutrition and Dietetics, Volume 124, Issue 9, 1181 - 1205

Empathy

The ability to:

- Recognize and appreciate the experiences and feelings of others
- Express an understanding of another's emotions and perspectives through communication

Empathy Training:

- Can teach caregivers to understand the experiences and perspectives of the families and patients we care for.



Challenges in communicating nutrition diagnoses in pediatrics

Malnutrition is not uncommon in hospitalized children

It is generally accepted to be related to adverse outcomes and increased healthcare utilization

Proper identification and diagnosis is essential

Challenges in communicating nutrition diagnoses in pediatrics

- Yet PMN often goes under diagnosed
- Due in part to the difficulty of diagnosing PMN
- Or is it because discussing the DX with colleagues and families is so difficult?



Carvalho-Salemi J, Phillips W, Wong Vega M, Swanson J, Becker PJ, Salemi JL. Malnutrition among Hospitalized Children in the United States: A 2012-2019 Update of Annual Trends. *J Accad Nutr Diet*. 2023 Jan;123(1):109-116. doi: 10.1016/j.jand.2022.05.021. Epub 2022 May 31. PMID: 35659540.

Hulst JM, Huysentruyt K, Gerasimidis K, Shamir R, Koletzko B, Chourdakis M, Fewtrell M, Joosten KF; Special Interest Group Clinical Malnutrition of ESPGHAN. A Practical Approach to Identifying Pediatric Disease-Associated Undernutrition: A Position Statement from the ESPGHAN Special Interest Group on Clinical Malnutrition. *J Pediatr Gastroenterol Nutr*. 2022 May 1;74(5):693-705. doi: 10.1097/MPG.0000000000003437. Epub 2022 Mar 3. PMID: 35258497.

How do we communicate a diagnosis



PRACTICE APPLICATIONS Professional Practice

The Ethics and Practice of Communicating a Malnutrition Diagnosis

Laura Guidry-Grimes, PhD; Agnieszka Sowa, MS, RD, LD; Jane Jankowski, DPS, MSW



MALNUTRITION, OR MORE specifically undernutrition, occurs commonly, with an estimated 30% of patients being malnourished at hospital admission. Malnutrition occurs across all ethnicities, genders, and body sizes, including patients with larger bodies who can also be malnourished and are equally vulnerable to the effects of malnutrition.¹ Poorly nourished

sure how to disclose the diagnosis, when to withhold information, or how to respond to reactions they may get from the patient or their caregivers. The current literature reveals a lack of existing guidelines outlining the process of informing a patient of a malnutrition diagnosis by a nutrition and dietetics practitioner. A literature search found that involving patients in health care decisions results in positive

an example script that was collaboratively developed to facilitate respectful and responsible communication of a malnutrition diagnosis.

CODE OF ETHICS AND PROFESSIONAL EXPERTISE

The Code of Ethics for the Nutrition and Dietetics Profession delineates a set of concise principles and standards shaping the "commitments and obli-

Guidry-Grimes L, Sowa A, Jankowski J. The Ethics and Practice of Communicating a Malnutrition Diagnosis. *J Acad Nutr Diet*. 2024 Feb;124(2):159-163. doi: 10.1016/j.jand.2023.10.010. Epub 2023 Oct 27. PMID: 37890584.

The ethics and practice of communicating a malnutrition diagnosis

There is a strong ethical presumption in favor of disclosing a malnutrition diagnosis, even if the patient or family might be upset or have difficulty understanding it initially.

The code of ethics

- Offers insight into how to manage the discussion with parents
- The dilemma between the pediatric dietitian and the caregiver

Ethical dilemmas

- Non-maleficence: The RDN has an obligation to: assess, diagnose, document and treat malnutrition.
 - Making evidence-based decisions considering the unique values and circumstances of the family, child, community, etc. in combination with the pediatric practitioner's expertise and judgement

Ethical dilemmas

- Autonomy: integrity in personal and organizational behavior and practice.
 - Provide truthful communication
 - Provide accurate communication
- Professionalism:
 - Refrain from communication false or misleading claims or information

How the code of ethics applies to pediatric nutrition practice

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- Practice within the limits of their scope and collaborate with the inter-professional team.

Ethical dilemmas

- Informing the caregivers / families of sensitive information and disclosing a diagnosis such as pediatric malnutrition in the age / climate / environment of open access to the electronic medical record is appropriate and prudent.
- Remember parents can access their child's medical records!

Empathic communication

- Non-judgmental
- Non-blaming
- Active listening
- Mutual respect and trust
- May improve adherence to therapeutic recommendations and improved patient outcomes



PRACTICE APPLICATIONS

Professional Practice

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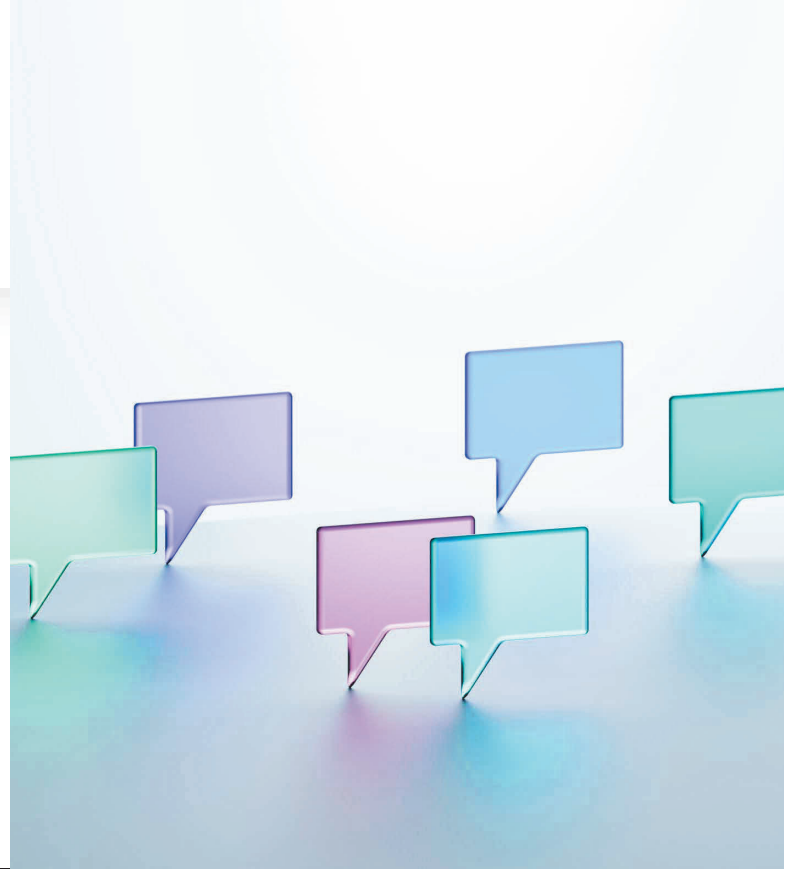
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Reasons to communicate a diagnosis

- To explain the documentation (describe)
- To assess the prognosis (prognosticate)
- To facilitate treatment (motivate)

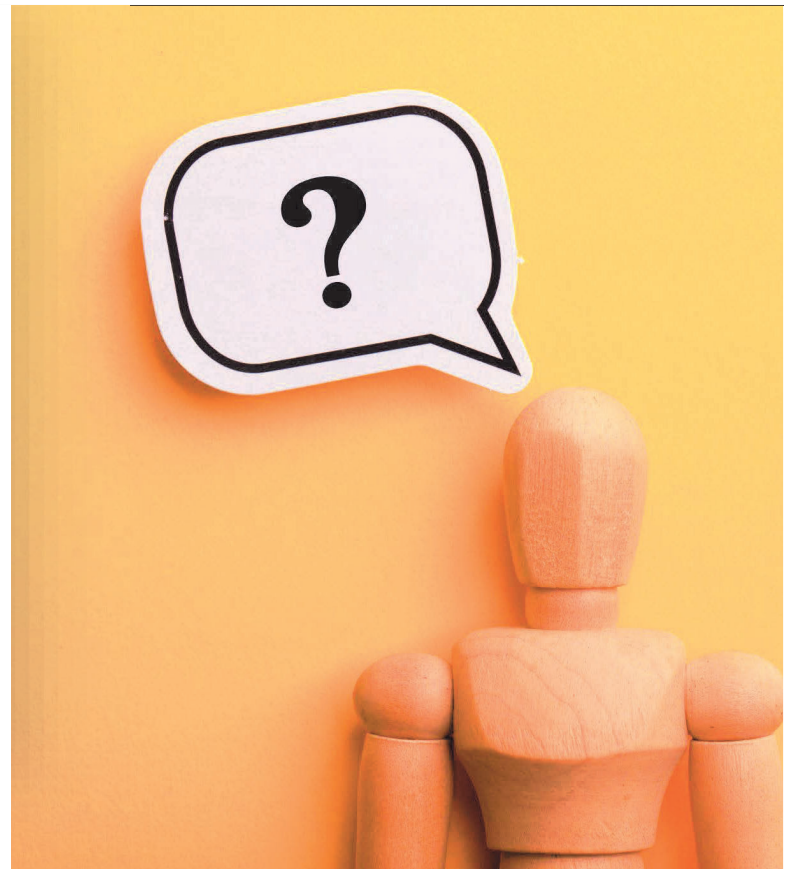
In considering communication

- Consideration of the sender, the receiver, the message and the context of the message must all be included in the communication process.



The What, Why and How

Of communicating a pediatric malnutrition diagnosis



1. Roggero P, Grima AM, Crespo-Escobar P, Tapsas D, Yahav J. Conflict between parents, physicians, and healthcare professionals in medical decision-making: How to address it-A systematic review from the ESPGHAN Ethics Committee. J
2. Gastroenterol Nutr. 2024 Nov;79(5):1071-1080. doi: 10.1002/jpn3.12365. Epub 2024 Sep 11. PMID: 39257324.

The What

- Explain what the diagnosis means.
- What are the signs and symptoms
- What are the causes

The Why



Explain why the diagnosis is being communicated

To engage the family in the treatment plan
To help improve care – increase nutrient intake
– needs – support growth and recovery



Explain why the diagnosis matters

The diagnosis helps all the team member agree – be on the same page with the treatment plan for recovery from poor growth / undernutrition

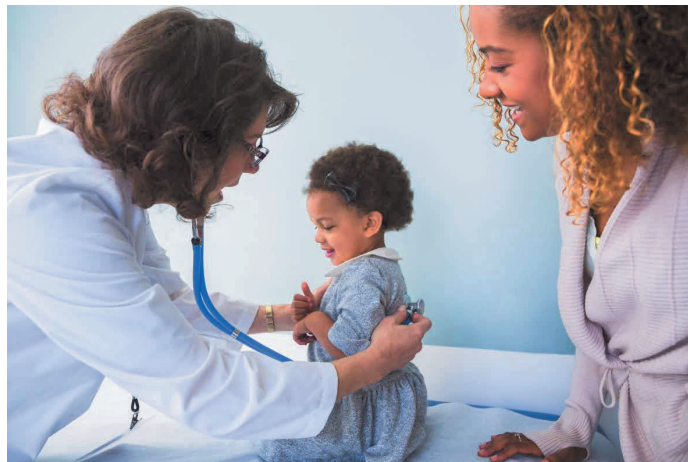
Ensures that adequate resources are allotted to the care of the child

The How

- Explain how diagnosing malnutrition is done
 - What are the criteria
 - Non-judgmental / no fault no blame
- Access by families of the EMR: understanding the diagnosis
 - Growth charts, etc.

Case example

Inpatient setting



Inpatient setting

- 18-month-old female
- History of congenital heart disease
- Birth weight: 2800 grams
- Gestational age: 38 weeks
- Admitted for RSV infection
- Length: 77 cm
- Weight: 8 kg
- MUAC: 14.2 cm

PediTools <small>Clinical tools for pediatric providers</small>						
0.03 months, female						
	Value	Imperial	%ile	Z-score	50%ile	Monthly*
Weight (kg)	2.8	6 lb 2.8 oz	15%	-1.05	3.26	0.85
Head (cm)					34.0	
Length (cm)					49.3	

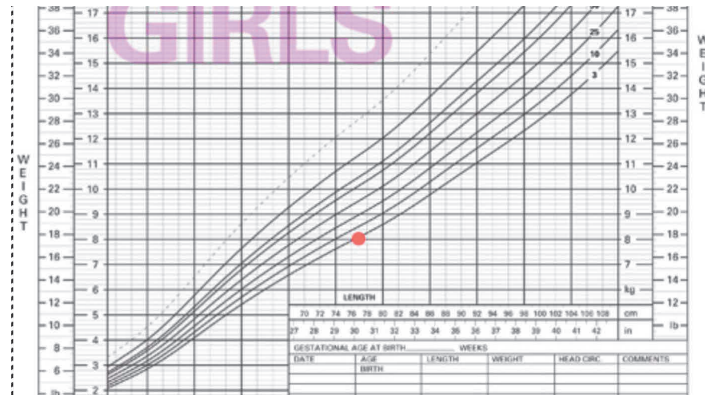
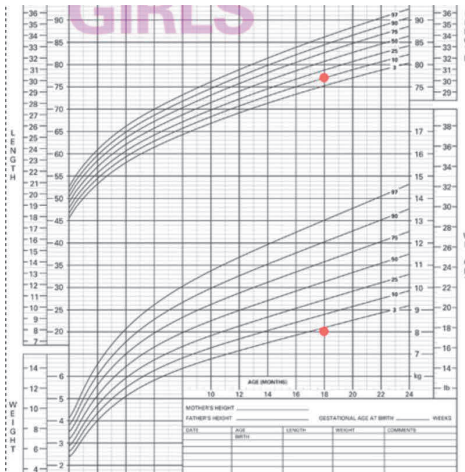
Feeding the child with congenital heart disease: a narrative review.



Abstract: Children with congenital heart disease (CHD) are prone to nutritional challenges and undernutrition. For children with unrepaired CHD, growth is often compromised due to caloric imbalance stemming from high energy expenditure and poor nutritional intake as a result of feeding intolerance, fluid restriction, and impaired absorption. The resulting undernutrition is associated with frequent infections, poor wound healing, and increased mortality, creating strong incentives for early and aggressive nutrition intervention. Management strategies are therefore aimed at ensuring that dietary provisions meet the child's distinctive needs by prioritising human milk for infants, increasing energy delivery through higher caloric density feeds, use of enteral feeding tubes, parenteral nutrition for energy supplementation, and medical therapy to treat feeding intolerance. The perioperative period also presents unique challenges and

Growth charts

- Weight for age z score: -2 / 2%ile
- Length for age z score: -1.3 / 10%ile
- Weight for length z score: -2 / 2%ile



Diagnosis

- P: illness related moderate malnutrition
- E: related to poor po intake due to CHD
- E: as evidenced by a weight-for-length z-score between -2 and -2.99 (-2.0) and MUAC between -2 and -2.99

18 months, female

	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	8	17 lb 10.2 oz	2%	-2.07	10.23
Head (cm)					46.2
Length (cm)	77	30.31 in	10%	-1.28	80.7
Wt-for-Len (kg)			2%	-2.00	9.52

*Expected monthly increase to maintain current percentile

17.5 months corrected, for birth at 38 0/7 weeks, female

	Value	Imperial	%ile	Z-score	50%ile
Weight (kg)	8	17 lb 10.2 oz	2%	-1.98	10.13
Head (cm)					46.2
Length (cm)	77	30.31 in	13%	-1.11	80.2
Wt-for-Len (kg)			2%	-2.00	9.52

Script

A	Acknowledge:	Greet the patient by name. Make eye contact, smile, and acknowledge family or friends in the room.
I	Introduce:	Introduce yourself with your name, skill set, professional certification, and experience.
D	Duration:	Give an accurate time expectation for tests, physician arrival, and identify next steps. When this is not possible, give a time in which you will update the patient on progress.
E	Explanation:	Explain step-by-step what to expect next, answer questions, and let the patient know how to contact you, such as a nurse call button.
T	Thank You:	Thank the patient and/or family. You might express gratitude to them for choosing your hospital or for their communication and cooperation. Thank family members for being there to support the patient.

Script number one

Introduce yourself.

Ask permission to discuss the child's nutrition status. Do you have time to discuss your child's nutrition status with me today?

The team has agreed that (insert the child's name) is experiencing a(n) case/episode of malnutrition/undernutrition.

Discuss the signs and symptoms – growth chart

Discuss no fault no blame

Discuss management plan

Discuss recovery goals

Thank the family



Case example

Outpatient setting

Stock images

Outpatient setting

- 9-year-old boy with IBD Crohn's disease
- PNST malnutrition risk screen: score 3
- Previous weight at last visit (September 2024) 23.5 kg. weight loss noted.
- Weight: 22 kg. Height: 128 cm. MUAC: 16.7 cm

Paediatric Nutrition Screening Tool

Instructions for use

The Paediatric Nutrition Screening Tool is intended to be used on hospital admission of paediatric patients. Complete the questions by obtaining information from parents or carers, medical records and by examining the child. Complete each question by selecting 'yes' or 'no' answers.

1 Has the child unintentionally lost weight lately?

This question identifies if the child has lost weight. Children should gain weight as they grow and only lose weight if clinically indicated. There are many causes of weight loss that require further investigation. 'Lately' can be over a time period of six months or days. If there is no weight history, a subjective assessment can be made as to whether the parent / carer / health professional is of the opinion that the child looks like they have lost weight.

2 Has the child had poor weight gain over the last few months?

The rate of weight gain of children depends on their age. Take into account the child's age when answering this question and refer to growth standards to determine if weight gain is appropriate.

3 Has the child been eating/feeding less in the last few weeks?

Determine if the child has reduced nutritional intake compared to their usual intake and energy requirements. Nutritional intake can be via various routes including oral, tube or parenteral. Reduced nutritional intake can occur as the result of malabsorption so consider gastrointestinal symptoms such as vomiting and loose stools.

4 Is the child obviously underweight?

Examine the child for physical indicators of malnutrition including loss of fat stores and muscle wasting. Look for loss of subcutaneous fat stores such as a hollow narrow face, obvious depressions between the ribs and flat buttocks. Protruding or prominent bones of the clavicle and scapular, depression along the inner thigh and a small calf are evidence of muscle wasting.

If 'yes' to two or more of the above:

- refer the child for further nutrition assessment (see contact details)
- check if child is known to a dietitian
- measure weight and length/height
- commence food and fluid intake record.

If a child does not require nutrition assessment it is important that they are rescreened regularly during their hospital stay. Rescreening should include regular weights and monitoring of nutritional intake. Rescreening questions can be:

1. Has the child unintentionally lost weight since admission?
2. Has the child reduced intake over the past three days?



Produced by

Dietetics and Food Services, Queensland Children's Hospital
501 Stanley Street, South Brisbane, Queensland 4101
Australia
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For fillable form, visit:

https://www.childrens.health.qld.gov.au/_data/assets/pdf_file/0028/167536/pnst-form.pdf



Nutrition focused physical assessment

- Assess
- Muscle wasting and fat mass

Muscle/Fat-Free Mass Assessment

Site / location	Normal/well nourished	Mild malnutrition / Moderate malnutrition	Severe malnutrition
Head:	Temple / neck muscle well defined	Slight depression, thin appearance, poor tone – head control	Deep hollow, very poor tone. Low muscle mass in neck and shoulders.
Arms:	Rounded, good tone	Bony prominence visible. Low tone	Poor tone, bone noted. Skin and bone.
Abdomen:	Good rebound to touch, soft, good bowel sounds	Firm, ribs noted. May be depressed	May be rounded and firm. Edema maybe present.
Legs:	Well rounded thigh and calf	Mild depression in thigh, kneecap maybe visible	Kneecaps visible, thin calf, no muscle definition of thigh or calf noted.

The Practitioner's Guide to Nutrition-Focused Physical Exam of Infants, Children, and Adolescents. "Physical Exam of Hair, Eyes, Oral Cavity, Nails, and Skin" Mark R. Corkins

Fat Mass Assessment

Site / location	Normal/well nourished	Mild malnutrition / Moderate malnutrition		Severe malnutrition
Face: eyes	Slightly bulging fat pads	Slight darkened circles, somewhat hollow, loose skin		Dark circles, hollow depressions, sagging of skin
Cheeks / buccal	Full round cheeks	Flat, minimal bounce		Hollow, sunken, no rebound
Chest (ribs):	Full, round, ribs not visible	Ribs, spine notable/palpable. Depressions between ribs visible.		Progressive prominence of ribs noted, with loss of intercostal tissue. Iliac crest very visible.
Buttock:	Full and round	Curved, less round.	Slightly curved. Not round.	Skin very wrinkled. No fat mass noted.
Legs:	Full, round	Slight loose skin noted		Ample loose skin noted, fingers can separate skin from fat free mass.

The Practitioner's Guide to Nutrition-Focused Physical Exam of Infants, Children, and Adolescents. "Physical Exam of Hair, Eyes, Oral Cavity, Nails, and Skin" Mark R. Corkins

Mid-upper arm circumference



PediTools Clinical tools for pediatric providers

109 months, male

Value %ile Z-score 50%ile

Arm circumference (cm) 16.7 2% -2.00 21.46

From 2 to 222 months

☒ Male ☐ Female

Age (months)

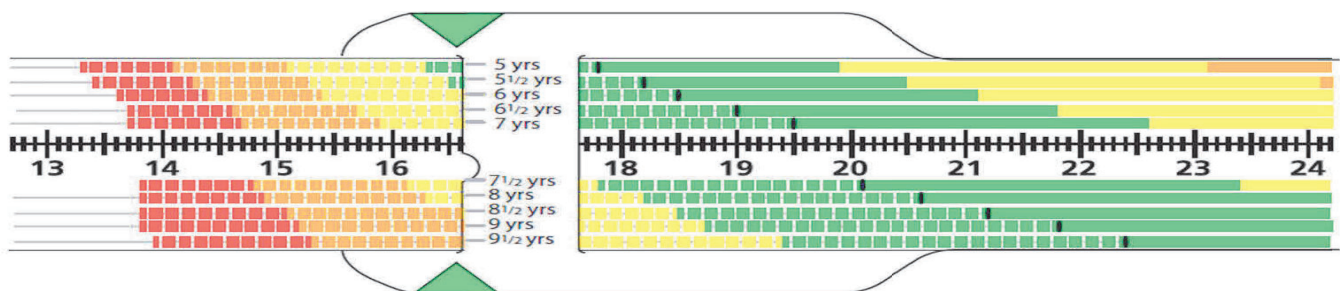
109

OR Date of birth

and Date of measure

Arm circumference (cm)

16.7



Example of MUAC z-score ranges when measured at 16.6 cm:


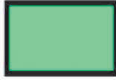





Age (yrs.)	MUAC z-score range	Risk classification
5	0 to -1	Normal
7	-1 to -2	Mild undernutrition
9	-2 to -3	Moderate undernutrition

Note: Your MUAC z-score tapes are for multi-use. Discontinue use if degradation occurs.

Reference table for z-score ranges on tape:

Color/Pattern Key	MUAC z-score range	Risk classification
Solid orange	2 to 3	Moderate overnutrition
Solid yellow	1 to 2	Mild overnutrition
Solid green	0 to 1	Normal
Hashed green	-1 to 0	Normal
Hashed yellow	-2 to -1	Mild undernutrition
Hashed orange	-3 to -2	Moderate undernutrition
Hashed red	-4 to -3	Severe undernutrition

MUAC z-score

-1 to 0			0 to 1
-2 to -1			1 to 2
-3 to -2			2 to 3
-4 to -3			

Malnutrition diagnosis

PediTools Clinical tools for pediatric providers

9y 1m (109 months), male

Value Imperial %ile Z-score 50%ile

Weight (kg) 22 48.5 lb 3% -1.94 28.8

Stature (cm) 128 50.4 in 17% -0.97 134

Wt-for-stature (kg)

BMI (kg/m²) 13.4 1.3% -2.23 16.2

Weight for 50th percentile BMI: 26.52 kg

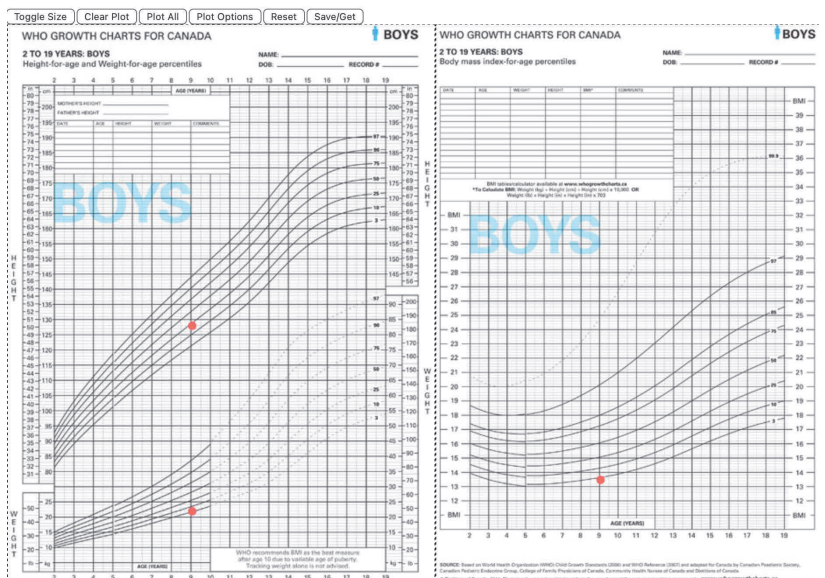
BMI Category: Underweight (BMI of 13.4 is 1.3%ile)

From 2 to 20 years

• Date of birth (YYYY/MM/DD) 02/19/2016

• Date of visit 03/20/2025 Height (cm) 128 Weight (kg) 22 Plot Visit HZ: -0.8 WZ: -1.8 BMIZ: -2.0

• Date of visit 03/21/2025 Height (cm) 110 Weight (kg) 10 Plot Visit



Diagnosis

P: illness related malnutrition

E: related to inadequate oral intake due to Crohn's Disease

S/S: as evidenced by BAZ between -2 and -2.99 (-2.23) and MUAC between -2 and -2.99 (-2), bony spine and ribs, cheeks noted



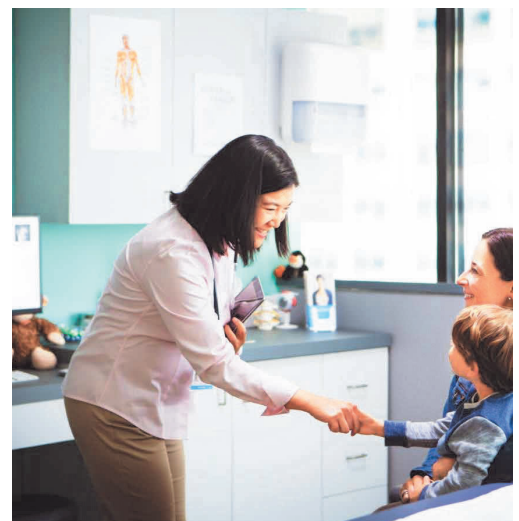
Script number two

NFPE Script

- Greet the child and family
- Smile, make eye contact and talk with them
- Identify the patient (using 2 patient identifiers)
- Introduce yourself

Duration: "I was hoping to meet with you for about 5-10 minutes, is now a good time?"

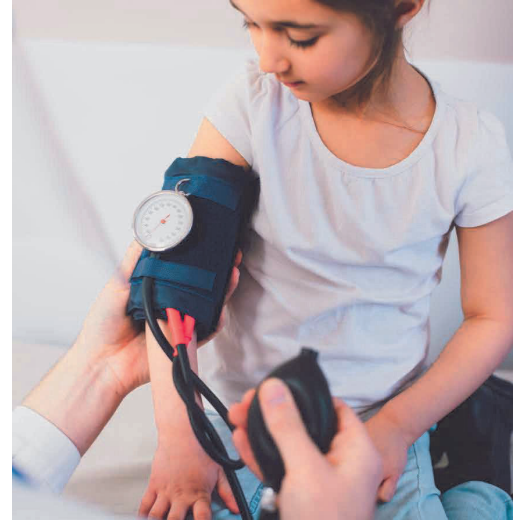
- Explain the physical assessment
- Employ hand hygiene and appropriate PPE



Stock image

Script number two

- Use language that is professional but appropriate for the family to understand.
- Respect privacy and ask for permission
- Ask about pain or discomfort prior to movement
- Expose areas of the body only as needed
- Assess muscle mass.
- Assess fat mass.
- Explain findings related to undernutrition and malnutrition diagnosis
- Discuss why a diagnosis of malnutrition is indicated and appropriate.
- Ask family if there are any questions or concerns related to the exam, findings or diagnosis
- Thank the family



What is next?

What steps will you take?



Opportunities to enhance our approach to ethics in pediatric practice

- Review the Academy of Nutrition and Dietetics Code of Ethics
- Investigate opportunities within your organization to participate on the ethics committee or team
- Attend ethics sessions offered by local health care organizations and provide an overview of the information to your team

References

- Academy of Nutrition and Dietetic, 2018. Code of Ethics for the Nutrition and Dietetics Profession.
- Revised 2024 Scope and Standards of Practice for the Registered Dietitian Nutritionist. Commission on Dietetic Registration Scope and Standards of Practice Task Force.
- www.cdrnet.org/scope. Accessed date. 02/22/2025
- Empathy in Nutrition and Dietetics: A Scoping Review: de Graaff, Emma et al. Journal of the Academy of Nutrition and Dietetics, Volume 124, Issue 9, 1181 - 1205
- Carvalho-Salemi J, Phillips W, Wong Vega M, Swanson J, Becker PJ, Salemi JL. Malnutrition among Hospitalized Children in the United States: A 2012-2019 Update of Annual Trends. J Acad Nutr Diet. 2023 Jan;123(1):109-116. doi: 10.1016/j.jand.2022.05.021. Epub 2022 May 31. PMID: 35659540.
- Hulst JM, Huysentruyt K, Gerasimidis K, Shamir R, Koletzko B, Chourdakis M, Fewtrell M, Joosten KF; Special Interest Group Clinical Malnutrition of ESPGHAN. A Practical Approach to Identifying Pediatric Disease-Associated Undernutrition: A Position Statement from the ESPGHAN Special Interest Group on Clinical Malnutrition. J Pediatr Gastroenterol Nutr. 2022 May 1;74(5):693-705. doi: 10.1097/MPG.0000000000003437. Epub 2022 Mar 3. PMID: 35258497.
- Guidry-Grimes L, Sowa A, Jankowski J. The Ethics and Practice of Communicating a Malnutrition Diagnosis. J Acad Nutr Diet. 2024 Feb;124(2):159-163. doi: 10.1016/j.jand.2023.10.010. Epub 2023 Oct 27. PMID: 37890584.
- Roggero P, Grima AM, Crespo-Escobar P, Tapsas D, Yahav J. Conflict between parents, physicians, and healthcare professionals in medical decision-making: How to address it-A systematic review from the ESPGHAN Ethics Committee. J
- Gastroenterol Nutr. 2024 Nov;79(5):1071-1080. doi: 10.1002/jpn3.12365. Epub 2024 Sep 11. PMID: 39257324.
- Herridge J, Tedesco-Bruce A, Gray S, Floh AA. Feeding the child with congenital heart disease: a narrative review. Pediatr Med 2021;4:7.
- The Practitioner's Guide to Nutrition-Focused Physical Exam of Infants, Children, and Adolescents. "Physical Exam of Hair, Eyes, Oral Cavity, Nails, and Skin" Mark R. Corkins

Questions? Thank you!



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