



# **Perioperative risk assessment**

**International workshop on**

**Management of  
Peritoneal Surface  
Malignancy**

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# First Patient Contact

- > Outpatient Clinic
- > Look at the clinical evidence (CT Scan Chest, Abdomen/Pelvis, Histology, PCI, surgical record, **OTHER ILLNESSES (think about further diagnostics! How many stairs can the Patient go?)**)
- > Nutritional consultation

# CRS and HIPEC SOP

- > On every server in the clinic, 53 pages
- > Developed in cooperation with our surgical department and the department of Anesthesiology and Critical Care Medicine, Campus Charité Mitte, Berlin

# Why?

- > CRS and HIPEC has a high risk of peri- and postoperative complications and a mortality of 3% in highly specialized centers (0-17% in others!)
- > So many different departments take place in the treatment of the patient that there needs to be good interdisciplinary communication
- > Much easier with the regulation of some guidelines
- > Reduction of Morbidity and Mortality

# Nutritional consultation

What do we do?

Work is based on the Guideline of clinical nutrition in surgery



S3-Leitlinie der Deutschen Gesellschaft für Ernährungsmedizin (DGEM)  
in Zusammenarbeit mit der GESKES, der AKE, der DGCH<sup>a</sup>, der DGAI<sup>b</sup>  
und der DGAV<sup>c</sup>

## Klinische Ernährung in der Chirurgie

Guideline of the German Society for Nutritional Medicine (DGEM)  
in Cooperation with the GESKES, the AKE, the DGCH, the DGAI and the DGAV  
**Clinical Nutrition in Surgery**

### Autoren

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B. Reith<sup>9</sup>, P. Rittler<sup>10</sup>, W. Schwenk<sup>11</sup>, M. Senkal<sup>12</sup> und das DGEM Steering Committee\*

-> 41 consensus-based recommendations for perioperative nutrition

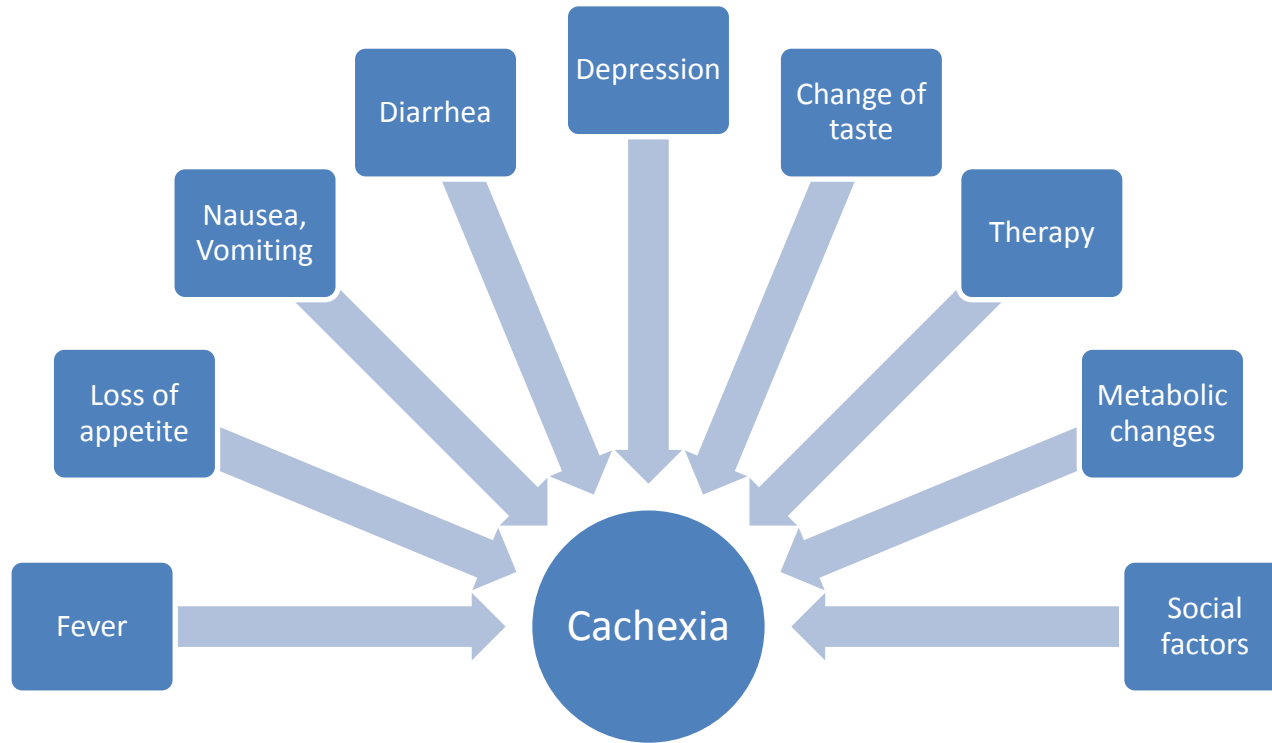
# ERAS: Enhanced recovery after surgery

- > Involve the nutrition in the therapeutical Master Plan
- > Screening of the metabolic risk (NRS, BIA)
- > Avoid longer fasting periods
- > Start nutrition at the earliest possible point after the operation
- > Minimize katabolic stress
- > Measure blood sugar level
- > Early mobilization to stimulate protein synthesis and muscle function

# Why ?

- > Improve rehabilitation
- > Minimize complications
- > Shorten the period in the hospital
- > Minimize costs
- > Wellbeing of the patient

# Why is the patient malnourished?





# NRS = Nutritional Risk Screening

Table 1 Initial screening			
		Yes	No
1	Is BMI < 20.5?		
2	Has the patient lost weight within the last 3 months?		
3	Has the patient had a reduced dietary intake in the last week?		
4	Is the patient severely ill ? (e.g. in intensive therapy)		
<p><b>Yes:</b> If the answer is 'Yes' to any question, the screening in Table 2 is performed.</p> <p><b>No:</b> If the answer is 'No' to all questions, the patient is re-screened at weekly intervals. If the patient e.g. is scheduled for a major operation, a preventive nutritional care plan is considered to avoid the associated risk status.</p>			

**Table 2** Final screening

Impaired nutritional status		Severity of disease (≈ increase in requirements)	
Absent Score 0	Normal nutritional status	Absent Score 0	Normal nutritional requirements
Mild Score 1	Wt loss > 5% in 3 mths or Food intake below 50–75% of normal requirement in preceding week	Mild Score 1	Hip fracture* Chronic patients, in particular with acute complications: cirrhosis*, COPD*, Chronic haemodialysis, diabetes, oncology
Moderate Score 2	Wt loss > 5% in 2 mths or BMI 18.5 – 20.5 + impaired general condition or Food intake 25–60% of normal requirement in preceding week	Moderate Score 2	Major abdominal surgery* Stroke* Severe pneumonia, hematologic malignancy
Severe Score 3	Wt loss > 5% in 1 mth (> 15% in 3 mths) or BMI < 18.5 + impaired general condition or Food intake 0–25% of normal requirement in preceding week in preceding week.	Severe Score 3	Head injury* Bone marrow transplantation* Intensive care patients (APACHE > 10).
Score	+	Score:	= Total score
Age	if ≥ 70 years: add 1 to total score above = age-adjusted total score		
Score ≥ 3: the patient is nutritionally at-risk and a nutritional care plan is initiated			
Score < 3: weekly rescreening of the patient. If the patient e.g. is scheduled for a major operation, a preventive nutritional care plan is considered to avoid the associated risk status.			



# When do we start and how do we start?

- > NRS  $\geq 3$
- > Predictable that there is no normal food intake possible within 3 days after surgery or
- > Predictable that the patient will not be able to take more than 60-75% of his basic metabolic rate for more than 10 days
- > **Generous indication**

## Step 1

$I$  (absolute oral capacity)

## Normal food intake

## Additives

## II (absolute oral capacity)

I + balanced diet (high caloric drinks)



## Step II

III (limited oral capacity)  
I+II+ enteral/parenteral supplementation



## Step III

IV (no oral capacity) Enteral feeding

V (no oral capacity) Enteral + parenteral feeding

VI (no oral capacity) Parenteral + enteral feeding

VII (no oral capacity) Total parenteral nutrition

# Preoperative

- > Check all documents
- > Diagnostic:
  - Pulmo: X-Ray Chest, Pulmonary function test (espirometria), bronchial asthma? -> inhalator?, OSAS? -> Own mask?
  - Heart: ECG, Ergometry, Echography, maybe Cardio consult
- > Bloodwork: diff. Bloodcount, Sodium, Potassium, Calcium, Magnesium, Creatinine, Urea, Hepatic enzymes, LDH, AP, Bilirubin, Albumin, Coagulation parameters, TSH, Creatininclearance
  - Tumourmarkers (CEA, Ca 19-9, Ovarian cancer: Ca 12-5 + Ca 15-3)
  - Bloodtype, Blood products (6 RBC packs, 6 FFP packs)
- > Check the scans again: ureter? Double-J-Catheter preop?



# Conclusions

- > Working with standard operating procedures can reduce the morbidity and mortality of the patient
- > Nutrition must be involved in the therapeutical masterplan
- > Know all other illnesses of your patient