



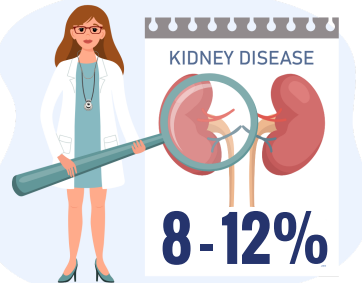
ESPEN FACT SHEETS

# DISEASE RELATED MALNUTRITION IN KIDNEY PATIENTS

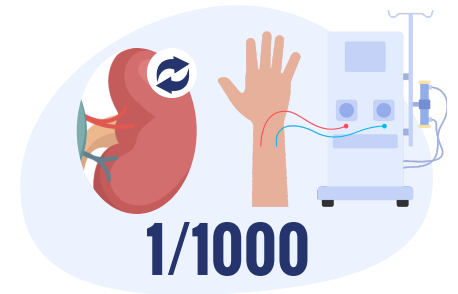
The challenge of complexity.  
Nutritional care matters.

## Chronic kidney disease (CKD)

Defined as estimated **glomerular filtration rate <60 ml/min**, or presence of other data suggestive of **kidney dysfunction** (urinary or blood electrolytes; proteinuria; hematuria) or of **renal imaging alterations**, lasting for at least 3 months.



Prevalence of CKD increases with age over 30% >70 years-old



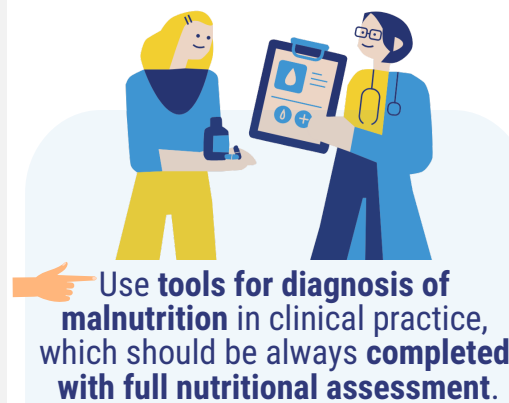
lives with kidney replacement therapy (dialysis or kidney transplantation)

## Malnutrition in CKD

# 10-50%

Prevalence depends upon the different populations, and to some extent upon definitions

it increases with/affected by:



GLIM CRITERIA



MALNUTRITION INFLAMMATION SCORE (MIS)



## 2 MAIN CAUSES OF MALNUTRITION IN CKD

- malnutrition induced by **uremia-related metabolic derangements** and exacerbated by **insufficient or too late dialysis** in kidney failure; this form is improved by intensive-efficient dialysis
- malnutrition linked to **comorbidity, inflammation, atherosclerosis** (optimal nutritional care is the basis of treatment, which may require multimodality with physical activity)

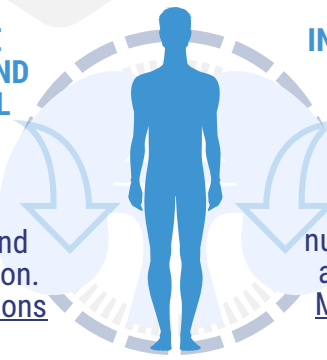


Malnutrition, sarcopenia, or protein energy wasting (PEW) are associated with high mortality, both in dialysis and CKD patients

## Nutritional goals in CKD patients

IN A STABLE METABOLIC AND NUTRITIONAL SITUATION

maintain homeostasis and delay progression.  
Dietary adaptations



IN MALNUTRITION OR AT NUTRITIONAL RISK

prevent and treat nutritional/catabolic alterations (PEW).  
Medical nutritional treatment

## Special Considerations for Elderly CKD patients

AGE + CKD

AN "OLDER" PATIENT WHO ALSO HAS CKD risk of malnutrition is the highest; maintaining good nutritional status is a priority; **maintain adequate dietary intake**



CKD + AGE

A CKD PATIENT WHO IS ALSO "OLD" mortality and morbidity risk on dialysis are highest; being dialysis free is a priority; **advantage of wise protein restrictions**