

Neurological, Psychiatric & Mental Health Dietetics Specialization Course

6 Month Advanced Specialization Course

COURSE POSITIONING

Designed for nutrition and dietetics students, graduates and practicing dietitians who want advanced competence in neurological nutrition, neurorehabilitation, psychiatric nutrition and mental health dietetics. The course integrates swallowing and feeding function, neurodegenerative disease, epilepsy and therapeutic ketogenic diet, mood and psychotic disorders, psychiatric medication related nutrition, eating disorders, nutrition support and multidisciplinary care.

The Course Moves Participants Away From

Common Oversimplification

Advanced Clinical Direction

Stroke means pureed food

Determine swallowing status, nutritional risk, feeding route and rehabilitation goals before modifying intake

Parkinson's means protein restriction

Protect protein adequacy and use medication related meal timing only when clinically relevant

Epilepsy means keto

Understand therapeutic ketogenic diet as a specialist intervention for selected indications

Bipolar disorder needs a mood diet

Address nutritional consequences, routines, metabolic risk and

medication related concerns within psychiatric care

Antipsychotic weight gain is simply overeating

Assess medication effects, appetite, metabolic markers, function, food access and readiness for change

Eating disorders only occur in underweight patients

Recognize eating disorders across body sizes and use specialist multidisciplinary referral and treatment pathways

Core Learning Pathway

Understand Neurological & Psychiatric Foundations → Conduct Specialized Assessment → Assess Swallowing & Feeding Function → Identify Malnutrition & Dehydration → Manage Stroke & Neurorehabilitation → Support Progressive Neurological Disease → Understand Epilepsy & Ketogenic Therapy → Manage Depression, Anxiety & Bipolar Nutrition → Address Schizophrenia, Psychosis & Medication Related Metabolic Risk → Recognize Eating Disorders → Provide Nutrition Support → Apply NCP → Defend Complex Neuropsychiatric Cases

Course Roadmap

Month

Primary Development Area

Participant Development

Month 1

Neurological Physiology, Mental Health Foundations, Dysphagia & Specialized Assessment

Understand neurological and psychiatric foundations, feeding ability, swallowing, nutritional risk and comprehensive assessment

Month 2

Stroke, Brain Injury, Spinal Cord Injury, Neurocritical Care & Rehabilitation

Develop competence across acute neurological injury, dysphagia, rehabilitation and long term functional change

Month 3

Parkinson's, ALS, Multiple Sclerosis, Dementia & Progressive Neurological Disorders

Apply disease specific nutrition reasoning across progressive neurological conditions

Month 4

Epilepsy, Ketogenic Diet Therapy, Depression, Anxiety & Mental Health Dietetics

Understand specialist epilepsy nutrition and common mental health related nutrition problems

Month 5

Bipolar Disorder, Schizophrenia, Psychosis, ADHD, Substance Use & Psychiatric Medication Nutrition

Manage nutritional consequences of severe mental illness and psychiatric treatment while maintaining scope boundaries

Month 6

Eating Disorders, Nutrition Support, Advanced Neuropsychiatric Dietetics, ADIME & Complex Case Management

Integrate specialist referral, nutrition support, documentation, ethics, monitoring and advanced case defense

Specialization Philosophy

The dietitian treats nutrition problems that arise within neurological and psychiatric illness. The course does not train participants to diagnose neurological disease, diagnose psychiatric disorders, prescribe psychiatric medication or replace psychological and medical treatment with food.

MONTH 1 | Neurological Physiology, Mental Health Foundations, Dysphagia & Specialized Assessment

Before changing food, understand which neurological, psychiatric or functional factors are interfering with nutrition.

Week

Focus

Learning Content

Practical Application

Week 1

Neurological Anatomy & Physiology for Dietitians

Central and peripheral nervous systems. Motor and sensory function. Cranial nerve concepts relevant to chewing and swallowing. Autonomic function. Cognition, memory and executive function. Neuroplasticity and rehabilitation concepts.

Map neurological dysfunction to potential feeding, swallowing, mobility and nutrition consequences.

Week 2

Mental Health & Psychiatric Foundations for Dietitians

Psychiatric diagnosis as medical context. Mood disorders, psychotic disorders, anxiety disorders, neurodevelopmental conditions,

substance use and eating disorders. Appetite, motivation, cognition, sleep, self care and food behavior as nutrition related factors.

Differentiate psychiatric diagnosis from the nutrition problems that may arise during mental illness or treatment.

Week 3

Swallowing Physiology, Dysphagia & Feeding Function

Oral preparatory, oral and pharyngeal swallowing concepts. Coughing, wet voice, food pocketing, prolonged meals, reduced consciousness and aspiration awareness. Texture and fluid modification within specialist swallowing recommendations.

Convert a standard menu into a nutritionally adequate prescribed texture while protecting hydration and energy intake.

Week 4

Comprehensive Neuropsychiatric Nutrition Assessment

Diagnosis, consciousness, cognition, communication, swallowing, feeding independence, dietary intake, weight trajectory, body composition, mobility, GI function, hydration, medication, psychiatric stability, sleep, substance use, social support, food access and caregiver factors.

Complete a structured neurological and mental health nutrition assessment.

Month 1 Development Outcome

Move from diagnosis based meal planning toward identifying the functional, behavioral and clinical factors creating the actual nutrition problem.

MONTH 2 | Stroke, Brain Injury, Spinal Cord Injury, Neurocritical

Care & Rehabilitation

Acute neurological nutrition, rehabilitation nutrition and long term disability nutrition are different phases of care.

Week

Focus

Learning Content

Practical Application

Week 5

Stroke Nutrition & Dysphagia

Ischemic and hemorrhagic stroke as medical context. Acute screening, dysphagia, hydration, malnutrition, reduced consciousness, feeding dependency, oral progression, ONS and enteral nutrition when oral intake is unsafe or inadequate.

Follow a simulated patient from acute stroke admission through dysphagia management and rehabilitation.

Week 6

Feeding Route Decisions & Stroke Rehabilitation

Safe oral intake, modified texture, inadequate oral intake, food fortification, ONS, nasogastric feeding, longer term enteral access concepts, reassessment of swallowing and transition toward oral intake.

Build a feeding progression from tube feeding toward oral nutrition while preserving energy and protein.

Week 7

Traumatic Brain Injury & Neurocritical Care

Severity as medical context, altered consciousness, critical illness

metabolism, selected hypermetabolism, mechanical ventilation, enteral nutrition, agitation, dysphagia, cognitive change, muscle loss and rehabilitation.

Compare nutrition priorities in ICU TBI and later neurorehabilitation.

Week 8

Spinal Cord Injury & Neurorehabilitation

Reduced mobility, body composition change, muscle atrophy, altered energy expenditure, obesity risk, pressure injury risk, constipation, neurogenic bowel as medical context, bone health and long term rehabilitation.

Develop long term nutrition care for spinal cord injury with reduced mobility and changing body composition.

Month 2 Development Outcome

Understand how route, requirements and goals change from acute neurological injury through rehabilitation and long term care.

MONTH 3 | Parkinson's, ALS, Multiple Sclerosis, Dementia & Progressive Neurological Disorders

Progressive neurological disease requires repeated reassessment because feeding ability changes over time.

Week

Focus

Learning Content

Practical Application

Week 9

Parkinson's Disease Nutrition

Tremor, rigidity, bradykinesia, dysphagia, constipation, weight loss, body composition, bone health and levodopa related food timing concepts. Maintain adequate protein and avoid indiscriminate restriction.

Develop a plan that protects protein while addressing medication timing only when clinically relevant.

Week 10

ALS & Motor Neuron Disease

Progressive weakness, chewing fatigue, dysphagia, respiratory involvement, weight loss, meal fortification, ONS, enteral feeding, PEG timing as multidisciplinary decision, autonomy and palliative considerations.

Follow a patient from independent intake through progressive feeding difficulty and enteral nutrition discussion.

Week 11

Multiple Sclerosis & Huntington's Disease

MS fatigue, mobility, body composition, bowel function, dysphagia and dietary misinformation. Huntington's involuntary movement, increased energy needs in selected patients, weight loss, dysphagia, cognitive and behavioral feeding concerns.

Critique a restrictive MS diet and develop energy dense care for a Huntington's disease case.

Week 12

Dementia & Cognitive Neurological Disorders

Memory impairment, food recognition, apraxia, feeding dependency, wandering, reduced intake, dysphagia, dehydration,

finger foods where useful, mealtime environment, caregiver support and advanced disease.

Develop person centered nutrition care for dementia with progressive weight loss and feeding dependency.

Month 3 Development Outcome

Shift from static disease diets toward ongoing assessment of function, swallowing, cognition, body composition and disease progression.

MONTH 4 | Epilepsy, Ketogenic Diet Therapy, Depression, Anxiety & Mental Health Dietetics

Specialist therapeutic diets and mental health nutrition require clear indications, monitoring and professional boundaries.

Week

Focus

Learning Content

Practical Application

Week 13

Epilepsy & Nutrition

Epilepsy as a medical diagnosis. Antiseizure medications, appetite and weight change, bone health, micronutrient considerations, hydration, food and supplement interactions and general nutrition support.

Assess nutrition concerns in long term antiseizure treatment without claiming food independently controls seizures.

Week 14

Therapeutic Ketogenic Diet for Epilepsy

Clinical indications, classic and modified ketogenic approaches, ratio concepts, specialist assessment, growth, hydration, micronutrients, GI side effects, lipid monitoring, kidney stone considerations, metabolic monitoring and weaning concepts.

Build a simulated therapeutic ketogenic plan within a specialist epilepsy team scenario.

Week 15

Depression, Appetite & Functional Eating

Reduced appetite, emotional eating, weight change, fatigue, poor motivation to shop or cook, sleep disruption, social isolation, food insecurity, micronutrient assessment, cardiometabolic health and medication related changes.

Develop nutrition care that supports physical health while psychiatric treatment addresses depression.

Week 16

Anxiety, Stress Related Eating & Mental Health Nutrition Assessment

Reduced appetite, GI symptoms, caffeine, irregular eating, food avoidance, emotional eating, sleep, alcohol use, supplement claims, food fear and recognition of disordered eating requiring referral.

Distinguish anxiety related eating disruption from GI intolerance and identify when specialist mental health referral is needed.

Month 4 Development Outcome

Understand the difference between supportive mental health nutrition and claims that food treats psychiatric illness.

MONTH 5 | Bipolar Disorder, Schizophrenia, Psychosis, ADHD, Substance Use & Psychiatric Medication Nutrition

Manage the nutritional consequences of severe mental illness and psychiatric treatment without taking over psychiatric management.

Week

Focus

Learning Content

Practical Application

Week 17

Bipolar Disorder & Lithium Related Nutrition

Nutrition during depressive, manic and hypomanic episodes. Disrupted routines, appetite, sleep, hydration, cardiometabolic risk, weight change, mood stabilizers and antipsychotic effects. Lithium related hydration consistency, illness, sweating, renal, thyroid and calcium considerations.

Manage a bipolar case with lithium and irregular intake while maintaining clear medication safety boundaries.

Week 18

Schizophrenia, Psychosis & Severe Mental Illness

Food access and self care, negative symptoms, cognitive barriers, smoking, inactivity, weight gain, central adiposity, diabetes, dyslipidemia, cardiovascular risk, antipsychotic related appetite changes and inpatient or community nutrition care.

Develop MNT for significant antipsychotic related weight gain without reducing the problem to calorie control alone.

Week 19

Psychiatric Medications & Nutrition

Antipsychotics, lithium, valproate, antidepressants, stimulants and sedating medications as nutrition related clinical context. Appetite, weight, glucose, lipids, GI effects, hydration and supplement interaction awareness.

Create a medication focused nutrition monitoring framework while leaving prescription changes to the treating clinician.

Week 20

ADHD, Neurodevelopmental Conditions & Substance Use

Stimulant related appetite suppression, skipped meals, growth in younger patients, meal timing, nutrient density, executive function, impulsive eating and supplement misinformation. Alcohol and substance use related poor intake, deficiencies, GI dysfunction and refeeding risk.

Design practical nutrition strategies for ADHD and identify nutrition priorities in substance related malnutrition.

Month 5 Development Outcome

Move from generic healthy eating advice toward structured nutrition care that accounts for psychiatric state, medication, metabolic risk, function and social context.

MONTH 6 | Eating Disorders, Nutrition Support, Advanced Neuropsychiatric Dietetics, ADIME & Complex Case Management

Treat the nutrition problem within neurological or psychiatric illness and recognize when specialist care is required.

Week

Focus

Learning Content

Practical Application

Week 21

Eating Disorders & Disordered Eating

Anorexia nervosa, bulimia nervosa, binge eating disorder, ARFID, other eating disorders, compensatory behaviors, vomiting, laxative misuse, excessive exercise, body image concerns, medical instability, electrolyte abnormalities, diabetes overlap and refeeding syndrome risk.

Recognize eating disorder risk across body sizes and build an appropriate specialist referral and nutrition safety pathway.

Week 22

Nutrition Support in Neuropsychiatric Care

Food fortification, ONS, texture modified diets, nasogastric feeding, gastrostomy concepts, formula selection, water and flush calculations, feeding schedules, monitoring, neuro ICU nutrition and transition back toward oral intake.

Develop a complete nutrition support plan for a neurological patient with prolonged inadequate oral intake.

Week 23

Mental Health Inpatient Care, ADIME & Multidisciplinary Practice

Psychiatric inpatient nutrition, severe depression with poor intake, mania with disrupted eating, psychosis with food refusal, medication related metabolic risk, food insecurity, neurological ADIME, psychiatric ADIME, ethics, communication and referral.

Prepare a neuropsychiatric ADIME note and multidisciplinary referral communication.

Week 24

Integrated Neuropsychiatric Case Defense

Integrate diagnosis, mental state, cognition, communication, mobility, swallowing, medication, appetite, weight, metabolic status, dietary intake, food access, substance use, sleep, nutrition support, diagnosis, intervention, monitoring and referral.

Defend one neurological case, one bipolar or psychotic disorder case, one eating disorder or severe mental health case and one complex neuropsychiatric case.

Month 6 Development Outcome

Be able to identify the actual nutrition diagnosis, justify intervention and referral, monitor outcomes and maintain clear neurological and psychiatric scope boundaries.

Dedicated Dysphagia Nutrition Competency Portfolio

Competency

Expected Skill

Swallowing Physiology

Understand oral and pharyngeal swallowing concepts

Dysphagia Recognition

Recognize nutrition and hydration risk

Professional Scope

Separate nutritional adequacy from formal swallowing safety assessment

Texture Modification

Maintain nutritional adequacy within prescribed texture

Modified Fluids

Protect hydration where fluid consistency is modified

Fortification

Increase energy and protein density

Oral Supplements

Adapt products to swallowing recommendations

Enteral Nutrition

Recognize when oral intake no longer meets requirements

Monitoring

Track intake, weight, hydration and progression

Case Defense

Defend a complete dysphagia nutrition pathway

Dedicated Ketogenic Diet Therapy Competency Portfolio

Competency

Expected Skill

Clinical Indication

Understand when therapeutic ketogenic diet may be considered

Specialist Scope

Work within an epilepsy and ketogenic diet team

Diet Types

Understand classic and modified approaches

Macronutrient Prescription

Understand therapeutic carbohydrate restriction and fat provision

Micronutrients

Protect adequacy through specialist supplementation protocols

Growth

Monitor pediatric growth where applicable

GI Tolerance

Recognize constipation, nausea and other complications

Metabolic Monitoring

Understand glucose, lipids, renal and other monitoring

Adherence

Support realistic long term implementation

Case Defense

Differentiate medical ketogenic therapy from commercial keto dieting

Dedicated Mental Health & Psychiatric Nutrition Competency Portfolio

Competency

Expected Skill

Depression

Assess poor intake, emotional eating, weight change and functional

barriers without claiming food treats depression

Anxiety

Address disrupted intake, caffeine, GI symptoms and food avoidance within appropriate mental health care

Bipolar Disorder

Manage nutrition across depressive and manic states while supporting routine, hydration and metabolic health

Lithium

Understand hydration consistency, acute illness risk and renal, thyroid and calcium related monitoring context

Schizophrenia

Assess functional, social and metabolic barriers to nutrition

Psychosis

Support nutrition when food refusal or unusual beliefs interfere with intake while psychiatric treatment addresses the cause

Antipsychotic Related Risk

Monitor weight, appetite, glucose, lipids and cardiovascular risk

ADHD

Manage appetite suppression, irregular meals and executive function related barriers

Substance Use

Identify poor intake, deficiency and refeeding risk within addiction care

Eating Disorders

Recognize risk across body sizes and use specialist multidisciplinary

referral and treatment pathways

Psychiatric Inpatient Care

Provide nutrition support without interfering with psychiatric stabilization

Case Defense

Defend nutrition intervention and referral boundaries in complex mental health cases

Neurological & Mental Health Case Portfolio

Case Area

Practical Competency

Acute Stroke

Conduct nutrition screening and determine immediate priorities

Stroke With Dysphagia

Maintain nutrition and hydration within safe feeding recommendations

Post Stroke Rehabilitation

Transition nutrition toward functional recovery

Traumatic Brain Injury

Manage acute and rehabilitation nutrition

Spinal Cord Injury

Adapt nutrition to reduced mobility and changing body composition

Parkinson's Disease

Integrate symptoms, dysphagia, bowel function and medication timing

ALS

Manage progressive feeding and respiratory related nutrition concerns

Multiple Sclerosis

Address fatigue, mobility, bowel health and misinformation

Huntington's Disease

Manage weight loss, involuntary movement and dysphagia

Dementia

Provide person centered feeding and nutrition support

Epilepsy

Assess medication related and nutritional concerns

Ketogenic Therapy

Develop specialist therapeutic diet framework

Bipolar Depression

Manage poor intake and nutritional deterioration

Mania

Address disrupted eating, hydration and routine within psychiatric care

Bipolar With Lithium

Apply hydration and medication safety awareness

Schizophrenia

Assess dietary, functional and socioeconomic barriers

Antipsychotic Related Weight Gain

Provide metabolic nutrition intervention

Psychosis With Poor Intake

Maintain nutrition while psychiatric treatment addresses the cause

Major Depression

Manage appetite, weight and functional eating barriers

Anxiety

Address nutrition disruption without presenting food as treatment

ADHD

Manage appetite suppression and irregular eating

Substance Use

Identify malnutrition and micronutrient risk

Eating Disorder Risk

Recognize medical and nutrition risk and refer appropriately

Neuro ICU

Manage enteral nutrition during critical neurological illness

PEG Feeding

Build complete long term nutrition support plan

Complex Neuropsychiatric Case

Integrate neurological, psychiatric and metabolic priorities

Professional Scope Integration

Situation

Dietitian's Role

Stroke

Provide nutrition care within acute and rehabilitation management

Dysphagia

Maintain nutritional adequacy within swallowing recommendations

Aspiration Risk

Collaborate with swallowing and medical teams rather than independently determining airway safety

Parkinson's Disease

Manage nutritional consequences without claiming diet treats neurodegeneration

Levodopa

Support meal and medication timing within prescribed treatment

ALS

Support nutritional status and feeding progression within multidisciplinary neurological care

Multiple Sclerosis

Provide evidence informed nutrition without restrictive disease cure claims

Epilepsy

Support general nutrition while seizure management remains neurological

Ketogenic Diet Therapy

Provide specialist dietary therapy within appropriately supervised epilepsy care

Depression and Anxiety

Treat nutrition problems while psychiatric diagnosis and treatment remain with mental health professionals

Bipolar Disorder

Manage nutritional and metabolic consequences while mood stabilization remains psychiatric

Lithium

Support hydration and nutrition safety while dosing and medication monitoring remain with the prescriber

Schizophrenia and Psychosis

Address nutrition, metabolic and functional concerns without treating psychosis through diet

Psychiatric Medication

Monitor nutrition related consequences without independently changing medication

Eating Disorders

Recognize risk and provide care only within appropriate competence and specialist multidisciplinary pathways

Enteral Nutrition

Calculate and monitor feeding according to competence and clinical protocol

PEG

Provide nutrition input while procedural decisions remain medical

Palliative Neurology

Align nutrition with comfort, function, patient wishes and goals of care

Complex Neuropsychiatric Disease

Collaborate with neurology, psychiatry, psychology, rehabilitation, swallowing, pharmacy and nursing teams

Final Specialization Portfolio

Portfolio Component

Final Output

Neuropsychiatric Nutrition Assessment

Complete specialized assessment framework

Dysphagia Nutrition Tool

Intake, texture, hydration and nutrition risk assessment

Stroke Case

Acute to rehabilitation nutrition pathway

TBI Case

Neuro ICU to rehabilitation care

SCI Case

Long term nutrition and body composition framework

Parkinson's Case

Complete disease specific nutrition care

ALS Case

Progressive feeding and nutrition support pathway

MS Case

Evidence informed nutrition management

Dementia Case

Person centered nutrition strategy

Epilepsy Case

Medication and nutrition assessment

Ketogenic Therapy Case

Specialist therapeutic diet framework

Bipolar Case

Mood state, intake, metabolic risk and medication related nutrition care

Lithium Safety Tool

Hydration, illness and nutrition monitoring framework

Schizophrenia Case

Functional and cardiometabolic nutrition assessment

Psychiatric Medication Tool

Weight, appetite, glucose, lipid and nutrition monitoring

Eating Disorder Recognition Tool

Risk identification and specialist referral framework

Mental Health Inpatient Case

Nutrition plan within acute psychiatric care

Enteral Nutrition Case

Formula, water, rate and monitoring

Neuropsychiatric ADIME Portfolio

Complete professional documentation

Referral Framework

Neurology, psychiatry, psychology, eating disorder, swallowing, rehabilitation and pharmacy pathways

Final Case Defense

Advanced neurological and mental health nutrition presentation

Expected Specialization Transformation

At Entry

At Completion

Stroke patients need pureed food

I determine swallowing status and maintain nutritional adequacy within the recommended feeding plan

Dysphagia means soft food

I understand that swallowing safety requires specialist assessment and individualized texture recommendations

Parkinson's patients should reduce protein

I maintain adequate protein and modify timing only when clinically relevant to prescribed medication

ALS eventually means a feeding tube

I understand progressive assessment, patient preference, timing and

multidisciplinary enteral support

MS needs an anti inflammatory diet

I distinguish evidence based nutrition care from restrictive disease cure claims

Epilepsy means keto

I understand ketogenic diet therapy as a specialist intervention for selected indications

Depression can be treated with an anti inflammatory diet

I support nutritional and physical health while psychiatric treatment addresses depression

Bipolar patients just need healthy eating

I understand mood related eating disruption, cardiometabolic risk and medication related nutrition issues

Lithium patients should simply drink more water

I understand hydration consistency, acute illness risk and the need for medical coordination

Antipsychotic weight gain is just overeating

I recognize medication related appetite and metabolic changes and provide structured MNT

Schizophrenia nutrition means weight loss

I consider metabolic risk, food access, cognition, function, medication and psychiatric stability

ADHD needs supplements

I focus on intake, appetite, meal structure and medication related nutrition concerns

Eating disorders only mean low body weight

I understand that eating disorders occur across body sizes and require specialist multidisciplinary assessment

Tube feeding solves neurological malnutrition

I understand route selection, prescription, monitoring, complications and transition

Neuropsychiatric dietetics means meal planning

I can conduct, document and defend a complete neurological and mental health nutrition care process

Final Learning Pathway

Learning Step

Learning Step

Understand Neurological Physiology

Understand Mental Health & Psychiatric Foundations

Conduct Specialized Assessment

Assess Feeding Function

Recognize Dysphagia

Identify Malnutrition & Dehydration

Manage Stroke Nutrition

Support Neurorehabilitation

Manage TBI & SCI Nutrition

Support Progressive Neurological Disease

Manage Dementia Nutrition

Understand Epilepsy Nutrition

Apply Specialist Ketogenic Diet Therapy

Support Depression & Anxiety Nutrition

Manage Bipolar Related Nutrition

Understand Lithium Nutrition Safety

Address Schizophrenia & Psychosis Nutrition

Monitor Psychiatric Medication Related Risk

Support ADHD & Neurodevelopmental Nutrition

Recognize Substance Related Malnutrition

Recognize Eating Disorder Risk

Provide Oral Nutrition Support

Provide Enteral & PEG Nutrition

Manage Neurocritical Care Nutrition

Apply Neuropsychiatric ADIME

Collaborate Across Neurology & Mental Health Teams

Defend Advanced Neuropsychiatric Cases

In One Line

This specialization develops dietitians who can provide structured and evidence informed nutrition care across stroke, neurorehabilitation, traumatic and spinal injury, Parkinson's disease, ALS, multiple sclerosis, dementia, epilepsy and therapeutic ketogenic diet, depression, anxiety, bipolar disorder, schizophrenia, psychosis, ADHD, substance related malnutrition, eating disorder risk, dysphagia and nutrition support while maintaining clear

neurological, psychiatric and dietetic scope boundaries.