



ECNG

Extracorporeal Nephrology Group

An Academic Forum for Nephrologists, DM Trainees,
Physicians, and Healthcare Professionals



CKM SYNDROME

A CONTINUUM OF **CARDIOVASCULAR**-**KIDNEY**-**METABOLIC** HEALTH

— Integrated care across the spectrum improves outcomes —

CKM RISK DRIVERS

- Obesity / Overweight
- Hypertension
- Diabetes / Prediabetes
- Dyslipidemia
- Smoking
- Physical Inactivity

CKM STAGE	STAGE 0	STAGE 1	STAGE 2	STAGE 3	STAGE 4
	No Risk Factors Optimal Cardiovascular-Kidney-Metabolic Health	Excess or Dysfunctional Adiposity Overweight / Obesity Central adiposity	Metabolic Risk Factors Hypertension, Prediabetes / Diabetes, Dyslipidemia	Subclinical CVD or CKD Subclinical ASCVD, Albuminuria or ↓ eGFR	Established CVD or CKD Clinical CVD or Advanced CKD
WHAT IT MEANS 	No risk factors and optimal health. Prevent risk factors and maintain healthy lifestyle.	Excess body fat beginning to increase risk for future CKM disease.	Metabolic risk factors present; high risk for developing CKM disease.	Early target organ injury (heart, kidney, vessels) without clinical events.	Clinical CVD events (heart failure, MI, stroke, PAD) and/or advanced CKD.
CLINICAL CHARACTERISTICS 	• Normal BP • Normal glucose • Normal lipids • Normal kidney function • No CVD	• BMI ≥25 kg/m² or central obesity • ↑ Waist circumference • NAFLD may be present • Normal BP, glucose, kidney function	• Hypertension • Prediabetes / Diabetes • Dyslipidemia • Metabolic syndrome • Normal or mildly reduced kidney function • No clinical CVD	• Albuminuria (ACR ≥30 mg/g) or ↓ eGFR • ↑ CAC score / carotid plaque / LVH • Diastolic dysfunction • No prior CVD event	• Prior MI, Stroke, Heart Failure, PAD • eGFR <30 ml/min/1.73m² or dialysis • Heavy albuminuria • Recurrent CVD events
TREATMENT / MANAGEMENT GOALS 	MAINTAIN HEALTH ✓ Healthy diet (Mediterranean style) ✓ Regular physical activity (≥150 min/week) ✓ Maintain healthy weight ✓ Adequate sleep & stress control ✓ Avoid tobacco ✓ Periodic screening	PREVENT PROGRESSION ✓ Weight reduction (5–10%) ✓ Calorie control & healthy diet ✓ Increase physical activity ✓ Behavioral therapy ✓ Sleep & stress management ✓ Consider anti-obesity medications if appropriate	RISK FACTOR CONTROL ✓ BP control (<130/80 mmHg) ✓ Glycemic control (HbA1c individualized) ✓ Lipid control (Statin ± Ezetimibe) ✓ Weight loss ✓ Smoking cessation ✓ SGLT2 inhibitor (if diabetes or high risk)	EARLY ORGAN PROTECTION ✓ ACEi / ARB for albuminuria or hypertension ✓ SGLT2 inhibitor (CKD, HF or DM) ✓ GLP-1 RA in T2DM / obesity with CVD risk ✓ Intensify lipid lowering (Statin ± PCSK9i) ✓ Optimize BP, glucose & lifestyle ✓ Regular monitoring (Kidney, Heart, Metabolic)	REDUCE EVENTS & SLOW PROGRESSION ✓ Evidence-based therapies: ACEi/ARB, BB, MRA, SGLT2i, GLP-1 RA as indicated ✓ Antiplatelet / Anticoagulation (if indicated) ✓ Maximize lipid lowering ✓ Manage HF, CKD complications (Anemia, MBD, Acidosis) ✓ Smoking cessation, rehab & nutrition ✓ Multidisciplinary care (Nephrology, Cardiology, Endocrinology, Nutrition)



EARLIER RECOGNITION • RISK FACTOR CONTROL • ORGAN PROTECTION • TEAM-BASED CARE

The earlier we act, the better the cardiovascular, kidney and metabolic outcomes.



KEY PRINCIPLES OF CKM CARE



Screen Early



Assess Comprehensively



Treat Holistically



Monitor Regularly



Empower Patients

WHY CKM MATTERS?

CKM syndrome is common, progressive and preventable. Integrated care reduces heart disease, kidney failure and improves quality of life.



SHINGLES IN CKM PATIENTS

Cardiovascular • Kidney • Metabolic

Higher risk: Age • Diabetes • CKD/Dialysis • Transplant • Immunosuppression



CARDIOVASCULAR

+



KIDNEY

+



METABOLIC

→



SHINGLES



PREVENTION



**SHINGRIX (RZV) —
NON-LIVE VACCINE**



≥50 years: 2 doses
≥19 years if
immunocompromised: 2 doses



Dose 2: 2–6 months
May shorten to 1–2 months
before planned
immunosuppression



CKD/Dialysis:
No dose adjustment



Transplant: Preferably
complete before transplant



If not given before:
6–12 months after transplant,
with stable graft function



Previous shingles?
Vaccinate after the acute
episode resolves



Live zoster vaccine:
AVOID after transplant



EARLY TREATMENT



Start antiviral ideally
within **72** hours



Treat later if new vesicles,
ophthalmic, neurologic,
disseminated or
immunocompromised



Valacyclovir • Acyclovir • Famciclovir
**RENAL DOSE ADJUSTMENT
IS ESSENTIAL**



Severe/disseminated disease:
IV acyclovir + hospital care



Pain relief: Paracetamol;
neuropathic-pain therapy
when required



Avoid routine NSAIDs
in CKD



Cover lesions • Hand hygiene •
Avoid contact with pregnant
non-immune persons,
newborns and
immunocompromised persons



RED FLAGS — URGENT REFERRAL



Eye/forehead/
nose
involvement



Ear weakness
or facial
palsy



Confusion or
weakness



Disseminated
rash



Transplant
patient



CLINICAL PEARL

Vaccination prevents shingles; antivirals
reduce severity and complications.

