Improving Care for Diabetic patients with Chronic Kidney Disease

Manisha Devani, Clinical Pharmacist
Grishma Shah, Business Practice Manager
Cara Harrington, Reception Manager
Dr Alka Patel, Diabetes Lead GP & GP Partner
Dr Raja Ganguly, GP Partner

What's the fuss about

Diabetic patients with CKD

* Cardiovascular disease (CVD)
* Hypoglycaemia
* Drug Toxicity
* Acute kidney injury (AKI) – SICKDAY Rules
* Progression End Stage Renal Disease

Evidence that early identification and treatment can prevent or delay progression, can improve CV outcomes

Diabetic patients with CKD G3b (KDIGO)

AIMS

- Improve CV outcomes and Safe
- Kidney Health Check
  - new EMIS template NICE CG182
  - ***Inform, Empower, Engage***
- Improvements are sustained
  - Recall for monitoring
- Foundation for improvement
  - Practice protocol for eGFR's <45mls/min
  - Annually validate register
  - Invest time to assess and re-assess CKD care

What is CKD?

* Abnormal Kidney Function and/or Structure
* Usually asymptomatic
* 2013 Kidney Disease: Improving Global Outcomes guidance
* <eGFR 60ml/min
* CKD g3b, coded A1/A2/A3

Classification of chronic kidney disease using GFR and ACR categories

GFR and ACR categories and risk of adverse outcomes			ACR categories (mg/mmol), description and range		
			<3 Normal to mildly increased	3–30 Moderately increased	>30 Severely increased
			A1	A2	A3
GFR categories (ml/min/1.73m²), description and range	≥90 Normal and high	G1	No CKD in the absence of markers of kidney damage		
	60–89 Mild reduction related to normal range for a young adult	G2			
	45–59 Mild–moderate reduction	G3a[1]			
	30–44 Moderate–severe reduction	G3b			
	15–29 Severe reduction	G4			
	<15 Kidney failure	G5			

Increasing risk

Increasing risk

[1] Consider using eGFRcystatinC for people with CKD G3aA1 (see recommendations 1.1.14 and 1.1.15)

Abbreviations: ACR, albumin:creatinine ratio; CKD, chronic kidney disease; GFR, glomerular filtration rate

Adapted with permission from Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group (2013) KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney International (Suppl. 3): 1–150

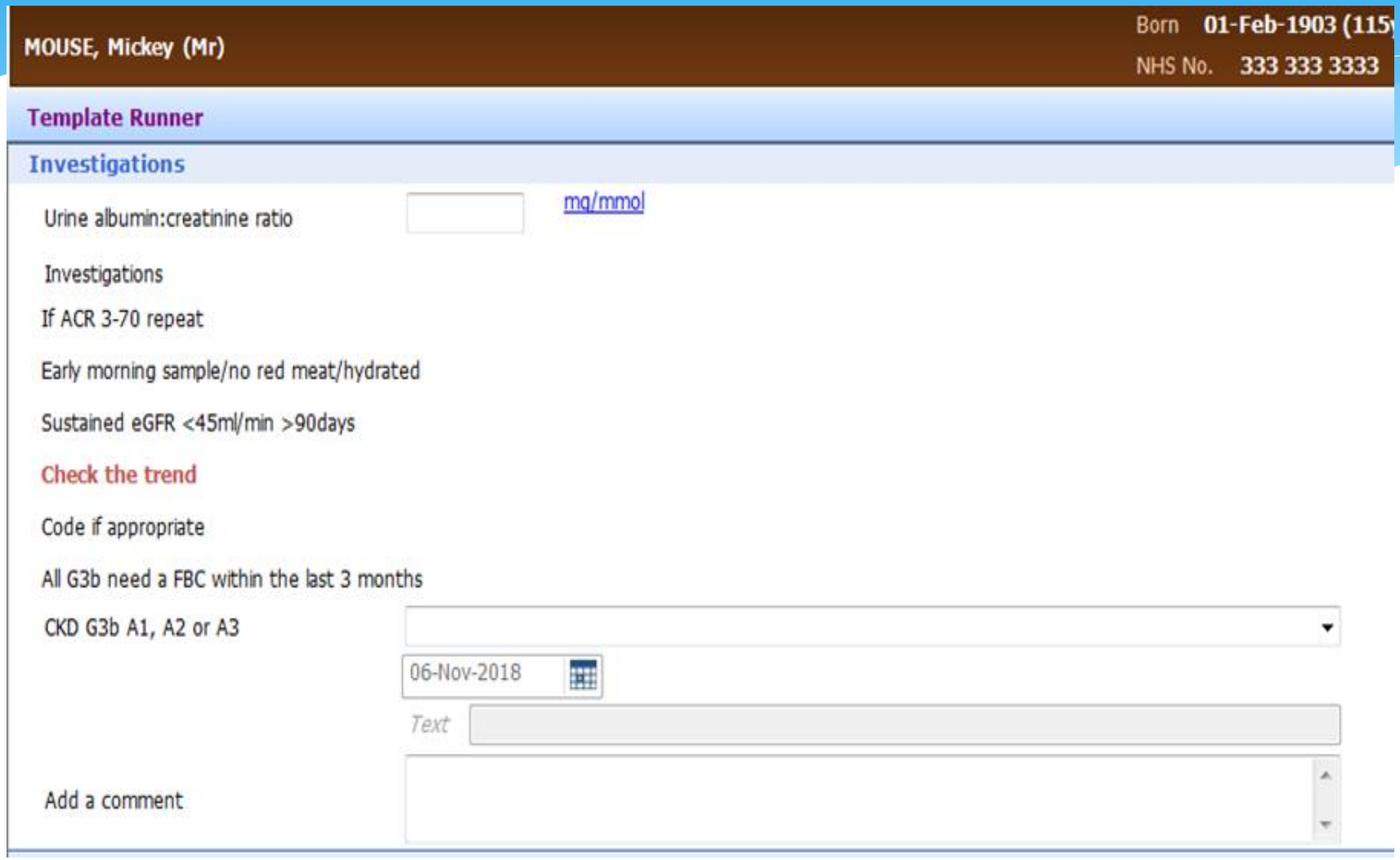
Kidney Health Check

- Cardiovascular risk reduction
  - Offer Aspirin and Atorvastatin
  - Stop smoking, weight, exercise, alcohol
- Diabetic control
  - ***Individual target***, frailty IDF guidelines
  - Hypo risk – dose adjust insulin/SU of de-prescribe SU
  - SGLT2 - De-prescribe
  - Metformin - Dose adjust
  - DPP4 inhibitors - Dose adjust, or change to Linagliptin
- Blood Pressure
  - BP 130/80 mmHg (140/90 mmHg if prone to falls, orthostatic hypotension)
  - ACR >3 initiate ACEI or ARB
  - titrate BP to Target

Kidney Health Check

- Medication Optimisation
  - De-prescribing - NSAIDs, opioids
  - Dose adjustment - DOAC
  - Gout
- Falls risk
- AKI preventions/CKD progression
  - SICKDAY rules
- Anaemia Hb<110
  - Ferratin, supplementation/Refer
- Recall
  - 6monthly CKDG3b and 4monthly G4

CKD G3b Template



Cardiovascular Risk Reduction

Offer Atorvastatin 20mg OD

Baseline ALT
Recall 3m & 12m ALT & Lipids

Offer Aspirin 75mg OD
Consider bleed risk
>65yrs old offer PPI

CI Cerebral bleed (stroke)
History Gastric bleed
Allergy
Asthma triggered by NSAID/aspirin

Comments

Diabetes

HbA1c Target:

Medication (SU/Insulin) and co-morbidies

IDF guidelines for older people

Category 1 - Functionally independent 55-56mmol/l

Category 2 - Functionally dependent 53 -64mmol/l

Sub-Category A: Frail up to 70mmol/l
Sub-Category B: Dementia up to 70mmol/l (BG 6-15)

Category 3 - End of Life Care - avoid symptomatic hypergylcaemia

HbA1c target level - IFCC standardised mmol/mol

Text

Diabetic medication changes

1) Metformin 500mg BD (max)

2) Stop SGLT2's

3) Adjust DPP4 Inhibitors/change to Linagliptin
Alogliptin 12.5mg/day
Sitagliptin 50mg/day
Vildapglitin 50mg/day
Saxagliptin 2.5mg/day

4) Hypo's - SU and Insulin - dose ajustment/de-prescribe (falls)

Blood Pressure

BP Targets:

CKD: target <140/90Hg

CKD & Diabetic: target <130/80
CKD & ACR >70: target <130/80
CKD & Hypertension: target <130/80

Target systolic blood pressure mmHg 05-Nov-2018

Target diastolic blood pressure mmHg 05-Nov-2018

Blood pressure / mmHg

When to start ACE Inhibitor

ACR +70mg/mmol
Diabetes & ACR +3mg/mmol
Hypertensive & ACR +30mg/mmol

If Potassium Level is >5 do not start ACEI
Investigate raised K and manage

Recall 2 weeks U and E
If drop eGFR <25% ok to continue
If rise in Creatinine <30% ok to continue

comment

Medication

Medication Optimisation

1. NSAIDs

2. DOAC
- measure creatinine clearance (wt/serum cr/CrCl)

3. Gout management

4. Falls - SU/Insulin plus opioids

5. OTC medication

HYDRATION plus Sick Day Rules Discussed (DAMNS Drugs)

Diuretics
ACEI/ARB
Metformin
NSAID
Sulphonylureas/SGLT2's

Med Changes

Follow up

Patient "recall" admin: recall 6 monthly for CKD A2 & A3 patients — Follow Up — 05-Nov-2018

Text

Blood test due in 3 months — Follow Up — 05-Nov-2018

Text

Renal follow-up Annual Check — Follow Up — 05-Nov-2018

Follow up comments

Referral

Offer a Renal Ultrasound

a) Accelerated Progression CKD
A sustained decrease in eGFR of +25%/change in category within 12months or
a sustained decrease in eGFR of 15ml/min/1.73m2 per year

b) Visible or persistent invisible haematuria

c) Symptoms of UT obstruction

Referral Nephrology

Consider co-morbidities/pt choice

a) ACR >70mm/mmol unless caused by diabetes
b) ACR >30mg/mmol plus haematuria
c) Poorly controlled Hypertension (already on +4 drugs)
d) rare/genetic causes of CKD
e) suspected renal artery stenosis

Pt Info: CKD

Acute Kidney Injury

How to keep your kidney safe

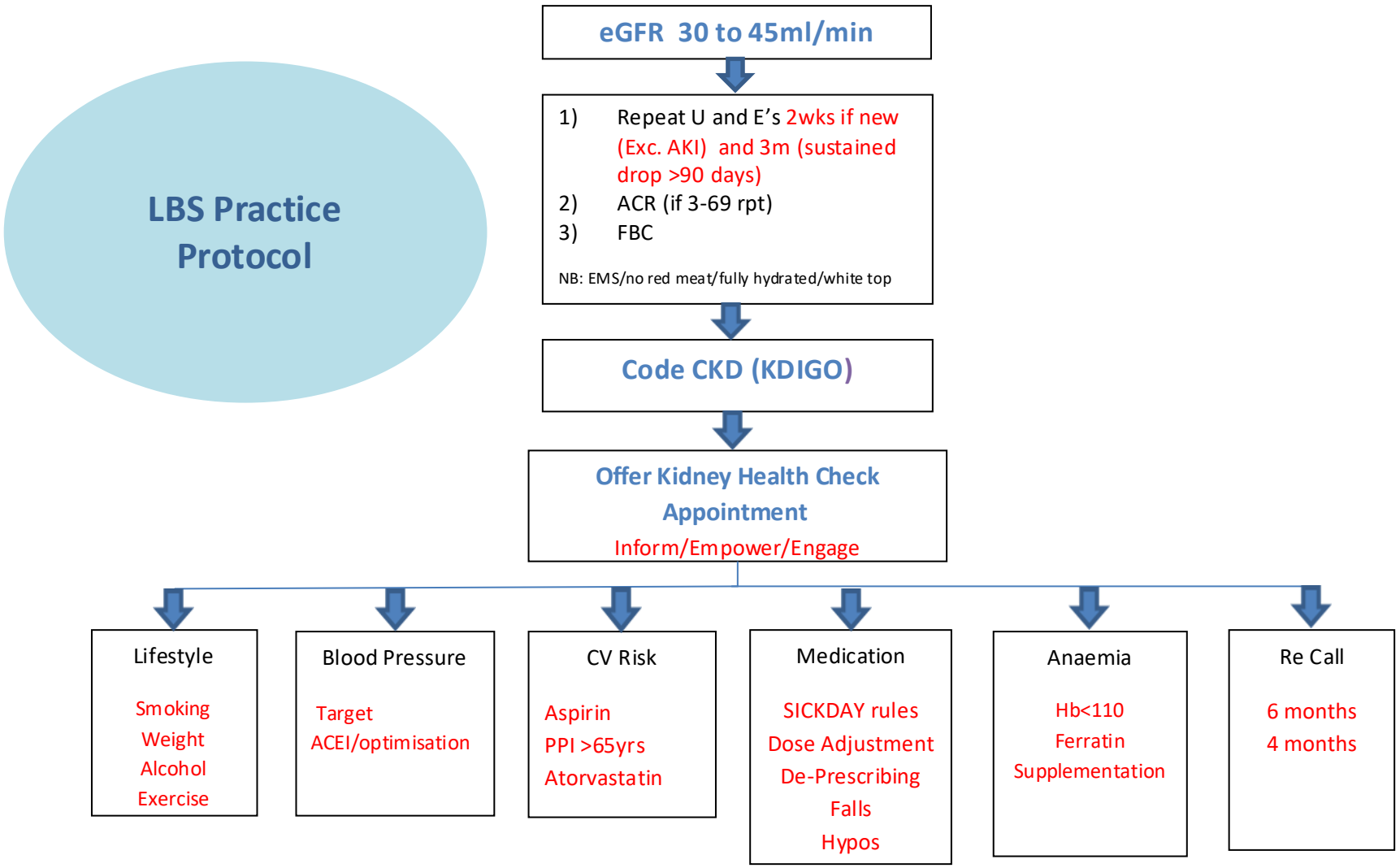
https://www.thinkkidneys.nhs.uk/aki/wp-content/uploads/sites/2/2016/02/BKPA-Patient-at-Risk-Leaflet_Printout.pdf

https://www.thinkkidneys.nhs.uk/aki/wp-content/uploads/sites/2/2015/11/BKPA-RCGP-A4-Printout-Plain-Leaflet_v2.pdf

Results

* 374 registered diabetics, 33 with CKD G3b

Intervention	No Patients	%
BP management	3	9
CV Risk Reduction	6	18
New Glycaemic Targets set	9	27
Hypoglycaemia management	20	60
De-prescribing	14	42
Dose adjustment	12	36
Anaemia Investigation	11	33
Lifestyle	19	57
SICKDAY rules	30	90
Referrals	3	9


LBS Practice Protocol
eGFR 30 to 45ml/min
1) Repeat U and E's 2wks if new (Exc. AKI) and 3m (sustained drop >90 days)
2) ACR (if 3-69 rpt)
3) FBC
NB: EMS/no red meat/fully hydrated/white top
Code CKD (KDIGO)
Offer Kidney Health Check Appointment
Inform/Empower/Engage
Lifestyle
Smoking
Weight
Alcohol
Exercise
Blood Pressure
Target
ACEI/optimisation
CV Risk
Aspirin
PPI >65yrs
Atorvastatin
Medication
SICKDAY rules
Dose Adjustment
De-Prescribing
Falls
Hypos
Anaemia
Hb<110
Ferratin
Supplementation
Re Call
6 months
4 months

LBS Practice Protocol

Referral

Offer a Renal Ultrasound

a) Accelerated Progression CKD

- A sustained decrease in eGFR of +25% and change in category within 12 months or
- A sustained decrease in eGFR of 15ml/min/1.73m2 per year

b) Visible or persistent invisible haematuria with or without proteinurea

c) Symptoms of UT obstruction

Referral Nephrology/diabetic renal (+retinopathy)

a) ACR >70mm/mmol unless caused by diabetes

b) ACR >30mg/mmol plus haematuria

c) Poorly controlled Hypertension (already on +4 drugs)

d) rare/genetic causes of CKD

e) suspected renal artery stenosis

eGFR <30mls/min – case by case basis (mineral and bone investigations)

PTH/Vitamin D/ Calcium/Phosphate

Conclusions

- Patients are ***informed, empowered and engaged*** positive feedback
- Significant number interventions – controllable risk factors
  - Improved CV outcomes
  - Improve AKI/CKD/ESRD outcomes…
  - Falls reduction – hypo management, med optimisation
  - Improved safety

Conclusions

- On our way to sustained improvements
  - Recall
  - Informing and engaging our patients in monitoring process
- Building a strong foundation
  - Practice protocol
  - Involving all staff

What next…

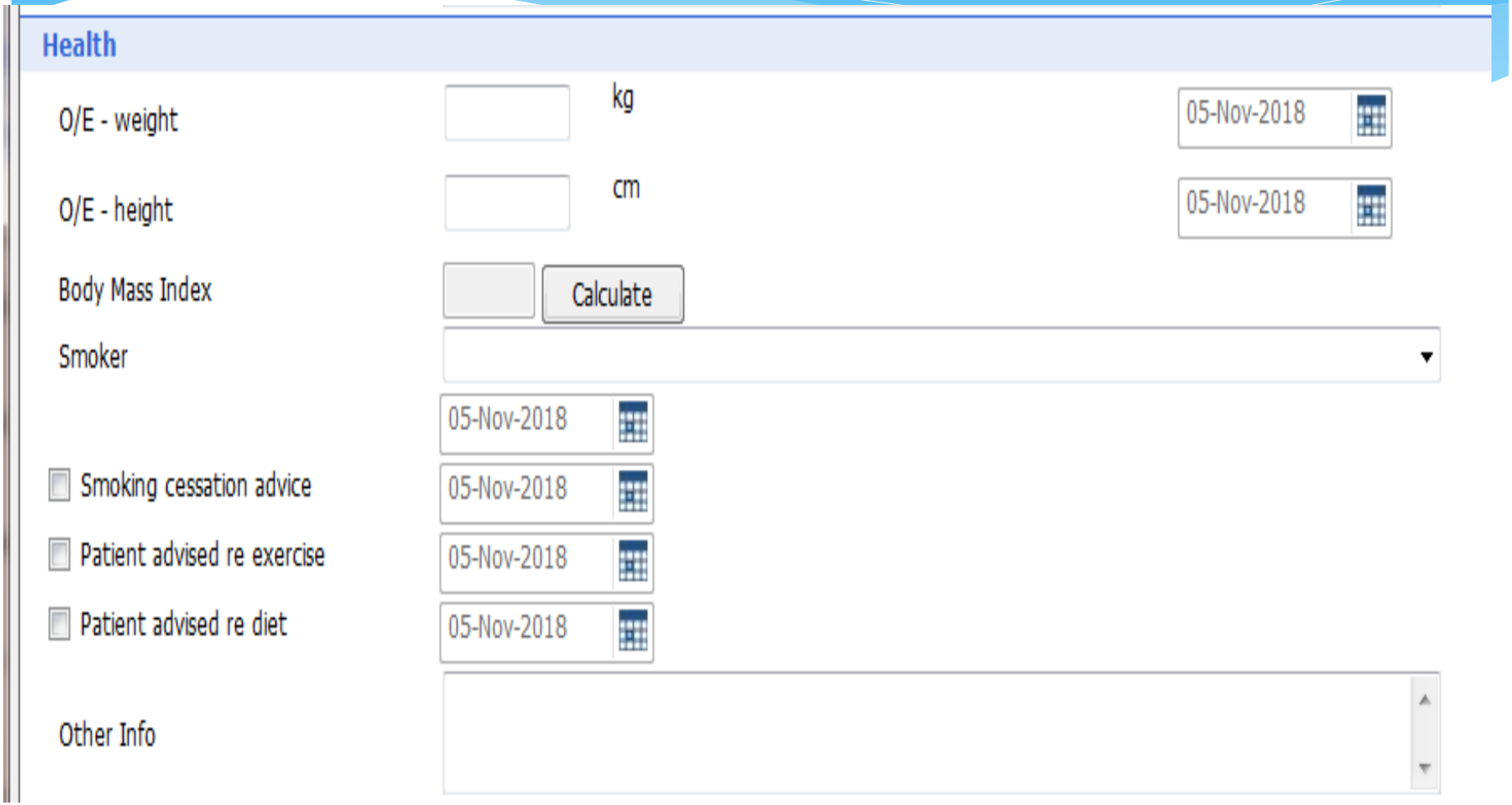
- CKD G3a with A2/A3
- CKD G4
- Identify high risk patients
  - Previous AKI
  - Hypertensives
  - CVD (IHD, HF)
  - Systemic Lupus Erythematosus
- Opportunist detection haematuria
- ***Share our learnings/processes with other practices***

Extra slides

Managing Older People with diabetes, IDF global guideline 2013

* Category 1 - Functionally Independent – target 53-59mmol/l (7 -7.5%)
* Category 2 -Functionally dependent – target 53-64mmol/l (7-8%)
* Sub-category A : Frail up to 70mmol/l (8.5%) may be appropriate
* Sub- category B : Dementia up to 70mmol/l (8.5%) may be appropriate (aim blood glucose 6-15mmol/l)
* Category 3 – End of Life Care – Avoid symptomatic hyperglycaemia.

CKD G3b Template



CKD G3b Template

Anaemia

If Hb < 110g/L request Ferritin blood test

If Ferritin is < 22ug/L treat anaemia
Ferrous Fumerate 210mg, twice a day
Recall 3m FBC + Ferritin

If Ferritin is normal
Recall 3m FBC + Ferritin

NB: Consider referral to Nephrology if Ferritin normal and Hb continues to be low

Haemoglobin estimation _____ g/L

add comment _____