Table 1. GH, Soluble Klotho, IGF-1, Scr, and Phosphorus in 40 Patients With Untreated Acromegaly at Baseline and 1-3 Months After Curative Transsphenoidal Pituitary Adenomectomy

	Preoperative			Postoperative		
	Men (n = 21)	Women (n = 19)	P[a]	Men (n = 21)	Women (n = 19)	P[a]
GH (ng/mL)	18.0 ± 4.1	18.2 ± 4.0	0.7	1.3 ± 0.3	2.8 ± 0.6	0.01
Soluble klotho (pg/mL)	3,160 ± 555	4,910 ± 818	0.05	557 ± 45	1,008 ± 126	0.007
IGF-1 (ng/mL)	586 ± 39	477 ± 46	0.05	201 ± 14	155 ± 12	0.02
Scr (mg/dL)	0.95 ± 0.07	0.70 ± 0.04	<0.001	1.04 ± 0.07	0.73 ± 0.03	<0.001
Phosphorus (mg/dL)[b]	4.16 ± 0.16	4.18 ± 0.12	0.9	3.16 ± 0.13	3.32 ± 0.09	0.3

Note: Data are given as mean ± standard error of the mean.
Abbreviations: GH, growth hormone; IGF-1, insulin-like growth factor 1; Scr, serum creatinine.
[a]Women and men were compared pre- and postoperatively using Mann-Whitney *U* test.
[b]Incomplete data set: 18 men, 16 women.

and soluble klotho levels are increased and then decrease following surgery.[4] Soluble klotho levels were higher in women than in men, but estrogen status could not account for this difference.[5] Of 54 patients (aged 25-75 years) who were followed up, 40 had no evidence of residual postoperative disease activity, yet soluble klotho levels remained higher in women than in men (Table 1).

Obviously, many more data from a larger cohort are needed. Serum phosphorus levels are particularly high during the pubertal growth spurt.[6] We suggest that for an improved understanding of the role of age and sex in handling phosphorus, the view should be broadened: rather than being limited to estrogen and classical calcium- and phosphorus-regulating hormones, it should also include androgen and GH- axis. GH has an important impact not only on bone remodeling and renal phosphorus handling, but also on klotho turnover, as reflected by high soluble klotho levels in patients with acromegaly.

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Prospective Analysis of After-Hour Pages to Nephrology Fellows

To the Editor:

Practicing nephrologists and fellows have expressed dissatisfaction with their careers,[1,2] the latter identifying long work hours as one of the reasons.[3] In 2013, a total of 44% of nephrology programs participating in the National Resident Matching Program were unfilled.[4] We conducted a prospective study of 6 nephrology fellows over 61 days and assessed 615 after-hour pages (AHPs). Most AHPs were from covering providers or nurses regarding inpatients. No fellow received more AHPs or consults than any other, but first-year fellows returned to the hospital and called the attending more often than second-year fellows. Table 1 reports the reasons for the AHPs and the actions performed.

Our audit uncovered several areas of concern. First, fellows had to return to the hospital on 64% of overnight call nights. Second, the most common action in response to pages was "no action." Last, half the AHPs occurred after 10:00 PM, and only 31% of nights afforded the opportunity for the ACGME-recommended minimum of 5 hours of uninterrupted sleep, which is especially important after 16 hours of duty.[5]

Several categories of our AHPs could be avoided through intervention. Verbal communication, rather than relying on chart notes, may have reduced up to 72 AHPs that concerned patients who had been seen previously. Educating fellows on telephone triage skills[6,7] and, at least in our institution, improving order sets and protocols for continuous renal replacement therapy may lessen the burden of calls without compromising patient safety.

We encourage other institutions to audit their own AHPs to identify easily rectifiable issues.

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Table 1. Review of 615 AHPs Received by Nephrology Fellows

Premise	No. of AHPs (% of total)	No. of Actions Performed[a] (%)								
		No Action	Gave Instructions	Placed Order(s)	Signed out	Saw Pt	Called Pt	Called HD Nurse	Other	No Reply
Consult already seen	157 (25.5)	71 (45.2)	56 (35.7)	13 (8.3)	6 (3.8)	3 (1.9)	1 (0.6)	7 (4.5)	—	—
New consult	151 (24.5)	3 (2)	7 (4.6)	—	72 (47.7)	68 (45)	—	—	7 (4.6)	—
CRRT related	120 (19.5)	49 (40.8)	38 (31.7)	7 (5.8)	9 (7.5)	—	—	17 (14.2)	—	—
Dialysis orders	62 (10.1)	10 (16.1)	10 (16.1)	37 (59.7)	—	—	—	—	5 (8.1)	—
HD/PD nurse concern	32 (5.2)	11 (34.4)	11 (34.4)	7 (21.9)	—	1 (3.1)	—	—	2 (6.2)	—
Access issues	25 (4.1)	1 (4)[b]	17 (68)	6 (24)	—	—	—	—	1 (4)	—
Patient call	25 (4.1)	7 (28)	9 (36)	—	—	—	—	—	9 (36)[c]	—
Lab results	21 (3.4)	8 (38.1)	6 (28.6)[d]	—	—	2 (9.5)	5 (23.8)	—	—	—
Miscellaneous	22 (3.6)	9 (40.9)	2 (9.1)	—	1 (4.5)	—	—	—	2 (9.1)[e]	8 (36.4)

Abbreviations: AHP, after-hour page; CRRT, continuous renal replacement therapy; HD, hemodialysis; Lab, laboratory; PD, peritoneal dialysis; Pt, patient.

[a]If multiple actions were performed, we asked the fellows to list the most time-consuming action.

[b]Reassured the caller.

[c]Telephone calls/pharmacy.

[d]Or gave order(s).

[e]Called MD.

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RESEARCH LETTERS

Utility of Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) Equations in Obese Diabetic Individuals Before and After Weight Loss

To the Editor:

Obese individuals with type 2 diabetes with albuminuria can have normal or elevated (hyperfiltration) glomerular filtration rates (GFRs).[1] In this group, traditional creatinine-based GFR estimating equations fare badly compared to measured GFR (mGFR) using gold-standard radioisotope methods.[2] Their higher fat-free mass can increase creatinine production compared with lighter individuals with the same mGFR. Following weight loss, the utility of eGFR equations to determine changes in mGFR is unclear in the presence of altered body composition and loss of lean mass. Moreover, in the obese, the pitfalls of indexing GFR to a body surface area (BSA) of 1.73 m^2 are well known.[3]

The CKD-EPI creatinine equation and subsequent CKD-EPI equations incorporating cystatin C and both cystatin C and creatinine are increasingly used.[4,5] We hypothesized that the cystatin C equations may be superior in obese cohorts with normal or elevated GFRs as well as after weight loss because cystatin C is not affected by muscle mass.

The Weight Loss, Protein and Renal Health Study was a randomized clinical trial comparing moderate and standard dietary protein weight loss regimens in terms of kidney function over 12 months in overweight participants with type 2 diabetes and albuminuria. The main results recently were published.[6,7] In this study, mean weight loss did not differ between diets, at 9.7 ± 13.4 (SE) kg for the moderate-protein diet and 6.6 ± 7.1 kg for the standard-protein diet, with an average difference in protein intake between diets of 19 ± 6 g/d. Dietary protein had no significant effect on eGFR, but both groups experienced changes in eGFRs during the period of weight loss. Patients with baseline eGFRs < 120 mL/min/1.73 m^2 ($n = 33$) had an improvement in eGFR, whereas patients with baseline eGFRs ≥ 120 mL/min/1.73 m^2 (hyperfiltration; $n = 12$) had a decrease in eGFR. Similar results were found when participants