RENAL CELL CARCINOMA TREATMENT REGIMENS

The selection, dosing, and administration of anticancer agents and the management of associated toxicities are complex. Drug dose modifications and schedule and initiation of supportive care interventions are often necessary because of expected toxicities and because of individual patient variability, prior treatment, and comorbidities. Thus, the optimal delivery of anticancer agents requires a healthcare delivery team experienced in the use of such agents and the management of associated toxicities in patients with cancer. The cancer treatment regimens below may include both FDA-approved and unapproved uses/regimens and are provided as references only to the latest treatment strategies. Clinicians must choose and verify treatment options based on the individual patient.

NOTE: GREY SHADED BOXES CONTAIN UPDATED REGIMENS.

General treatment notes:

- Targeted therapy using tyrosine kinase inhibitors is now widely used as first- and second-line treatments in renal cell carcinoma (RCC). To date, seven such agents have been approved by the FDA for the treatment of advanced RCC: sunitinib, bevacizumab (+ interferon), pazopanib, temsirolimus, sorafenib, everolimus, and axitinib.[1]
- Prior to targeted therapies, systemic treatment options were limited to cytokine therapy, notably interleukin-2 and interferon-α-2A.[1]

REGIMEN	DOSING
First-Line Targeted Therapies (for predominantly clear cell carcinoma)	
Sunitinib (Sutent)[1–3]	Sunitinib 50mg/day orally for 4 weeks on, and 2 weeks off.
Bevacizumab (Avastin) **+ interferon-α-2a** (IFN-α-2a)[1,4–6]	Bevacizumab 10mg/kg IV every 2 weeks plus IFN-α-2a 9 million IU SQ three times a week.
Pazopanib (Votrient)[1,4,7,8]	Pazopanib 800mg orally once daily.
Temsirolimus (Torisel)[1,9,10]	Temsirolimus 25mg IV once weekly administered over 30–60 min.
Second-Line Targeted Therapy After Treatment Failure (for predominantly clear cell carcinoma)	
Everolimus (Afinitor) following tyrosine kinase inhibitor[1,11,12]	Everolimus 10mg orally once daily.
Axitinib (Inlyta)[1,13,14]	Axitinib 5mg orally every 12 hrs; may increase to 7mg every 12 hrs after 2 weeks based on criteria; may increase to 10mg every 12 hrs after 2 weeks based on criteria.
Sorafenib (Nexavar) following cytokine therapy[1,15,16]	Sorafenib 400mg orally twice daily.
Sunitinib following cytokine therapy[1–3]	Sunitinib 50mg/day orally for 4 weeks on, and 2 weeks off.
Pazopanib following cytokine therapy[1,4,7,8]	Pazopanib 800mg orally once daily.
Cytokine therapy	
High-dose interleukin-2 (IL-2) as first-line therapy[1,17,18]	IL-2 720,000 IU/kg IV every 8 hrs (max 15 consecutive doses/cycle); treatments divided into 60-day courses, with each IV treatment course consisting of 2 cycles of therapy, separated by approximately 7–10 days of rest with no other therapy during the remainder of the 60 days. **OR** **Days 1–5 and Days 15–19:** IL-2 600,000 IU/kg IV every 8 hrs (max 14 doses). Repeat cycle every 4 weeks for max 3 cycles.

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