Suggested Admission Orders for Patients at High-Risk for or with Established Tumor Lysis Syndrome

Tumor lysis syndrome (TLS) occurs when the rapid breakdown of tumor cells results in the release of intracellular contents, causing electrolyte disturbances and acute renal failure. It can occur spontaneously or after starting treatment. Laboratory features include **elevated** uric acid, LDH, K^+, and PO_4^-, with **low** Ca^{2+} levels.

Patients at high risk of TLS include those with the following diagnoses:

- Acute leukemia (ALL or AML) with elevated WBC (WBC > 100)
- Aggressive lymphomas with large tumor burden: DLBCL, Burkitt's, lymphoblastic lymphoma, T-cell lymphoma
- Specific solid tumors with large tumor burden: Neuroblastoma, small-cell lung cancer, germ cell tumors

Bloodwork:

- ❑ Q6H: Electrolytes (Na, K, Cl, Ca, Mg, PO4), creatinine, LDH, uric acid
- ❑ If rasburicase has been given, send uric acid tube on ice
- ❑ Screening for G6PD deficiency (contraindication for rasburicse)

Uric Acid Lowering Therapy:

- ❑ If uric acid level is not elevated and patient is not at high risk of TLS: Allopurinol 300mg PO daily (adjust for renal function)
- ❑ If patient is high-risk or uric acid level is elevated: Rasburicase 4.5g IV x 1 with daily reassessment

Fluid Management: Target urine output 2mL/kg/hour. Consider diuretics if unable to attain with fluids alone or clinical volume overload develops.

- ❑ Ringers Lactate at _____ mL/hour OR
- ❑ Normal saline at _____ mL/hour
- ❑ Call MD if urine output is less than _____ for two consecutive hours

*Sodium bicarbonate for urine alkalinisation is not recommended

Electrolyte Management:

- ❑ Do not correct mild hypokalemia, hypocalcemia, or hypophosphatemia
- ❑ Do not order ICU electrolyte protocols

Consults:

- ❑ Nephrology: Hyperkalemia, severe hyperphosphatemia, severe acidosis, or refractory volume overload are indications for dialysis