

**Supplementary Table 1 – Definition of levels of factors for SEER colon and rectal cancer patients**  
 (Refer to [1,2,3] for specifics of the 4th column.)

Primary Tumor (T)	Dataset 1 (10-12) & Dataset 2 (04-10)	Tis	Carcinoma in situ: intraepithelial or invasion of lamina propria
		T1	Tumor invades submucosa
		T2	Tumor invades muscularis propria
		T3	Tumor invades through the muscularis propria into pericorectal tissues
	Dataset 1 (10-12)	T4a	Tumor penetrates to the surface of the visceral peritoneum
		T4b	Tumor directly invades or is adherent to other organs or structures
	Dataset 2 (04-10)	T4	Tumor directly invades other organs or structures, and/or perforates visceral peritoneum

Regional Lymph Nodes (N)	Dataset 1 (10-12) & Dataset 2 (04-10)	N0	No regional lymph node metastasis
		N1	Metastasis in 1–3 regional lymph nodes
	Dataset 1 (10-12)	N2a	Metastasis in 4–6 regional lymph nodes
		N2b	Metastasis in seven or more regional lymph nodes
	Dataset 2 (04-10)	N2	Metastasis in 4 or more regional lymph nodes
Distant Metastasis (M)	Dataset 1 (04-10) & Dataset 2 (10-12)	M0	No distant metastasis
	Dataset 2 (10-12)	M1a	Metastasis confined to one organ or site (e.g., liver, lung, ovary, nonregional node)
		M1b	Metastases in more than one organ/site or the peritoneum
	Dataset 1 (04-10)	M1	Distant metastasis

Age of diagnosis(A)	Dataset 2 (04-10)	A1	Age of diagnosis < 80
		A2	Age of diagnosis $\geq$ 80
Carcinoembryonic Antigen Interpretation (C)	Dataset 2 (04-10)	C1	Positive/elevated
		C2	Negative/normal; within normal limits
Location (L)	Dataset 2 (04-10)	Lr	Right-sided colon cancer, including cecum, ascending colon, and transverse colon
		Ll	Left-sided colon, including splenic flexure, descending colon, sigmoid colon
		Lb	Bottom-sided colon, including rectosigmoid junction and rectum

1. Greene F, Page D, Fleming I et al. AJCC Cancer Staging Manual. 6th edition: Springer, New York, 2002.
2. Edge S, Byrd D, Compton C et al. AJCC Cancer Staging Manual. 7th edition. Springer, New York, 2010.
3. SEER Research Data Record Description. Available from URL:  
<https://seer.cancer.gov/data/seerstat/nov2017/TextData.FileDescription.pdf>