



Supplemental Figure S1. CONSORT diagram for ACCESS study recruitment.

**Supplemental Table S1.** Association of sleep quality among regional and distant stage cancer patients compared to localized stage cancer patients (N=1453).

		Unadjusted OR (95% CI)	Adjusted* OR (95% CI)
Sleep Duration			
<7 hours	Regional	0.89 (0.70, 1.13)	0.82 (0.64, 1.04)
	Distant	0.95 (0.70, 1.30)	0.85 (0.62, 1.16)
7-8 hours	Regional	0.75 (0.59, 0.94)	0.78 (0.62, 0.99)
	Distant	0.69 (0.52, 0.94)	0.75 (0.55, 1.01)
≥9 hours	Regional	2.17 (1.55, 3.02)	2.27 (1.62, 3.18)
	Distant	2.20 (1.47, 3.29)	2.32 (1.54, 3.51)
Problems Staying Awake			
	Regional	1.52 (1.08, 2.15)	1.43 (1.00, 2.02)
	Distant	1.46 (0.95, 2.26)	1.28 (0.82, 1.99)
Poor Sleep Quality			
	Regional	1.28 (0.96, 1.69)	1.19 (0.89, 1.58)
	Distant	1.40 (0.99, 1.98)	1.25 (0.87, 1.78)
Sleep Medication Use			
	Regional	1.53 (1.09, 2.16)	1.52 (1.08, 2.16)
	Distant	2.17 (1.43, 3.29)	2.13 (1.38, 3.27)
Trouble Sleeping			
<i>Any problems</i>			
	Regional	1.25 (0.95, 1.64)	1.15 (0.87, 1.52)
	Distant	1.51 (1.05, 2.18)	1.38 (0.95, 2.01)
<i>No sleep within 30 minutes</i>			
	Regional	1.23 (0.89, 1.68)	1.13 (0.82, 1.56)
	Distant	2.08 (1.45, 2.99)	1.81 (1.25, 2.62)
<i>Waking up in middle of sleep</i>			
	Regional	0.95 (0.73, 1.24)	0.89 (0.68, 1.17)
	Distant	1.01 (0.72, 1.41)	0.92 (0.65, 1.29)
<i>Use the bathroom</i>			
	Regional	1.06 (0.82, 1.36)	1.05 (0.81, 1.35)
	Distant	0.81 (0.59, 1.13)	0.85 (0.61, 1.19)
<i>Pain</i>			
	Regional	0.98 (0.70, 1.36)	0.92 (0.65, 1.28)
	Distant	1.09 (0.73, 1.64)	1.02 (0.67, 1.55)
<i>Breathing/Cough/Snore</i>			
	Regional	0.80 (0.44, 1.44)	0.75 (0.41, 1.37)
	Distant	0.66 (0.29, 1.50)	0.55 (0.24, 1.27)
Change in Sleep			
	Regional	2.24 (1.66, 3.04)	2.15 (1.58, 2.94)
	Distant	2.65 (1.85, 3.80)	2.50 (1.73, 3.62)

\*Adjusted for age at diagnosis (years), sex (male, female), education (high school or less, some college, college graduate or higher), cancer site (colon, rectal) and time since diagnosis (months).

**Supplemental Table S2.** Association of sleep quality among rectal cancer patients compared to colon cancer patients stratified by cancer stage (N=1453).

		Unadjusted OR (95% CI)	Adjusted* OR (95% CI)
<b>Sleep Duration</b>			
<i>&lt;7 hours</i>			
	Localized	1.56 (1.07, 2.28)	1.47 (0.99, 2.16)
	Regional	1.13 (0.81, 1.59)	0.96 (0.67, 1.37)
	Distant	1.03 (0.60, 1.76)	1.01 (0.58, 1.75)
<i>7-8 hours</i>			
	Localized	0.69 (0.48, 1.00)	0.71 (0.48, 1.03)
	Regional	0.88 (0.64, 1.22)	1.02 (0.73, 1.43)
	Distant	0.96 (0.57, 1.61)	0.92 (0.54, 1.57)
<i>≥9 hours</i>			
	Localized	0.87 (0.48, 1.58)	1.00 (0.54, 1.88)
	Regional	1.03 (0.69, 1.52)	1.03 (0.69, 1.56)
	Distant	1.02 (0.55, 1.92)	1.15 (0.60, 2.22)
<b>Problems Staying Awake</b>			
	Localized	0.90 (0.49, 1.64)	0.91 (0.49, 1.67)
	Regional	1.03 (0.66, 1.59)	0.88 (0.56, 1.40)
	Distant	0.61 (0.28, 1.32)	0.53 (0.24, 1.17)
<b>Poor Sleep Quality</b>			
	Localized	1.88 (1.20, 2.94)	1.75 (1.10, 2.79)
	Regional	1.12 (0.77, 1.63)	0.97 (0.65, 1.42)
	Distant	1.16 (0.65, 2.08)	1.15 (0.63, 2.10)
<b>Sleep Medication Use</b>			
	Localized	1.24 (0.70, 2.18)	1.40 (0.77, 2.53)
	Regional	0.86 (0.55, 1.36)	0.93 (0.57, 1.52)
	Distant	1.32 (0.67, 2.59)	1.27 (0.63, 2.55)
<b>Trouble Sleeping</b>			
<i>Any problems</i>			
	Localized	1.92 (1.22, 3.04)	1.87 (1.17, 3.00)
	Regional	1.37 (0.92, 2.05)	1.33 (0.88, 2.01)
	Distant	1.83 (0.90, 3.72)	1.53 (0.74, 3.19)
<i>No sleep within 30 minutes</i>			
	Localized	1.37 (0.82, 2.28)	1.26 (0.75, 2.13)
	Regional	1.17 (0.77, 1.79)	1.11 (0.72, 1.71)
	Distant	1.38 (0.78, 2.44)	1.15 (0.62, 2.10)
<i>Waking up in middle of sleep</i>			
	Localized	1.38 (0.91, 2.10)	1.38 (0.89, 2.12)
	Regional	0.94 (0.65, 1.36)	0.86 (0.59, 1.27)
	Distant	1.53 (0.87, 2.69)	1.28 (0.70, 2.32)
<i>Use the bathroom</i>			
	Localized	1.54 (1.03, 2.31)	1.66 (1.09, 2.51)
	Regional	1.25 (0.88, 1.77)	1.26 (0.88, 1.81)
	Distant	1.87 (1.06, 3.28)	2.10 (1.16, 3.81)
<i>Pain</i>			
	Localized	1.46 (0.87, 2.46)	1.49 (0.87, 2.55)
	Regional	1.73 (1.09, 2.72)	1.58 (0.98, 2.54)
	Distant	1.57 (0.80, 3.08)	1.36 (0.67, 2.77)
<i>Breathing/Cough/Snore</i>			
	Localized	0.77 (0.29, 2.00)	0.73 (0.28, 1.96)
	Regional	0.53 (0.21, 1.38)	0.39 (0.14, 1.08)
	Distant	0.64 (0.13, 3.22)	0.46 (0.09, 2.47)

Change in Sleep

Localized	2.12 (1.27, 3.55)	1.91 (1.12, 3.23)
Regional	1.33 (0.93, 1.92)	1.23 (0.85, 1.80)
Distant	1.23 (0.71, 2.13)	1.29 (0.73, 2.30)

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\*Adjusted for age at diagnosis (years), sex (male, female), education (high school or less, some college, college graduate or higher) and time since diagnosis (months).

**Supplemental Table S3.** Association of sleep quality among rectal cancer patients compared to colon cancer patients with chemotherapy and radiation data (N=1148).

	Unadjusted OR (95% CI)	Adjusted 2 <sup>a</sup> OR (95% CI)
<b>Sleep Duration</b>		
<7 hours	1.39 (1.07, 1.81)	1.26 (0.90, 1.77)
7-8 hours	0.81 (0.63, 1.05)	0.92 (0.66, 1.27)
≥9 hours	0.85 (0.60, 1.20)	0.79 (0.50, 1.24)
<b>Problems Staying Awake</b>	0.98 (0.67, 1.41)	0.82 (0.51, 1.34)
<b>Poor Sleep Quality</b>	1.61 (1.20, 2.17)	1.32 (0.89, 1.94)
<b>Sleep Medication Use</b>	1.10 (0.76, 1.59)	1.31 (0.81, 2.10)
<b>Trouble Sleeping</b>		
Any problems	1.98 (1.42, 2.77)	1.80 (1.18, 2.73)
No sleep within 30 minutes	1.32 (0.96, 1.82)	1.10 (0.72, 1.66)
Waking up in middle of sleep	1.40 (1.06, 1.86)	1.40 (0.98, 2.01)
Use the bathroom	1.82 (1.39, 2.39)	1.85 (1.31, 2.63)
Pain	1.74 (1.24, 2.44)	1.55 (0.99, 2.41)
Breathing/Cough/Snore	0.58 (0.28, 1.23)	0.66 (0.27, 1.63)
<b>Change in Sleep</b>	1.50 (1.11, 2.03)	1.18 (0.79, 1.77)

<sup>a</sup> Adjusted for age at diagnosis (years), sex (male, female), BMI (kg/m<sup>2</sup>), education (high school or less, some college, college graduate or higher), cancer stage at diagnosis (localized, regional, distant), chemotherapy (yes, no), radiation (yes, no) and time since diagnosis (months).