

## Sequoia (Dignity) Hospitals’ “MIDAS Inpatient Takeback Rate”: is not a takeback rate

The Sequoia QA computer printout labeled a calculation the “MIDAS Inpatient Takeback Rate.” A QA director should know this is not a takeback rate for assessment of surgeon quality because the formula is not the same: takeback cases divided by total cases.<sup>1,2</sup> In contrast to the NSQIP standard takeback formula, the MIDAS ratio combines *both* billing tract categories for the numerator, and divides it by *one* census category of denominator.

The formula is only useful for billing purposes. When an “Outpatient” having laparoscopic surgery on a “23-hour-stay” billing tract (fixed rate for <1-day stay) has a takeback and stays an extra night, they must be admitted to the “Inpatient” billing tract (pay-per-each-added-day) so that they can be billed for each extra night.

A search of the National Center Biotechnology Information database (NCBI, a computer listing of all peer-reviewed medical journal publications internationally) shows not even one reference to a “MIDAS ratio.”<sup>1,2</sup>

Applying the MIDAS formula to Sequoia’s data on my practice, the 11 laparoscopic outpatients who had takebacks were transferred to open-incision inpatient census, and added to 4 takebacks. Thus, combined, 15 patients had takebacks, divided only by the Inpatient denominator of 79: my MIDAS ratio is 20%.

	Total	# OPEN	# SCOPE
# Takebacks	15	4	11
Total	628	79	549
Rate	2.4%	20%	2.0%

$$\frac{4+11}{79} = 20\%$$

I had: **79 open** Inpatients:

**My MIDAS ratio = 20%**

A predominantly laparoscopic surgeon, with a small inpatient volume, will have a high MIDAS number.

A surgeon with the *same combined 15 Takebacks and same 628 total cases*, but who uses fewer minimally invasive laparoscopic approaches, and more open-incisions than my 12%, say performing 30% open, will have a higher “open” census of 179, and a higher denominator, and a lower MIDAS ratio than mine:

Example: “GynOnc B” uses 30% open incisions in their practice, with the same 15 total Takebacks, divided by 179 open cases, giving them a MIDAS ratio of **8.4%**.

	Total	# OPEN	# SCOPE
# Takebacks	15	4	11
Total	628	179	449
Rate	2.4%	8.4%	2.4%

$$\frac{4+11}{179} = 8.4\%$$

GynOnc B: **179 Open** Inpatients:

**GynOnc B’s MIDAS ratio = 8.4%**

Another surgeon with the *same combined 15 Takeback and 628 total cases*, using even less outpatient laparoscopic tiny incision approaches, and even more open-incisions (i.e. more Inpatients) than my 12%, say 60% open-incisions, will have a even higher denominator of 379, and a far lower MIDAS ratio than mine:

Example: “GynOnc C” uses 60% open incisions for in their practice, with the same 15 total Takebacks, divided by 379 open cases, giving them an MIDAS ratio of **3.9%**.

	Total	# OPEN	# SCOPE
# Takebacks	15	4	11
Total	628	379	249
Rate	2.4%	3.9%	4.4%

$\frac{4+11}{379} = 3.9\%$

GynOnc C: **379 open** Inpatients:

GynOnc C MIDAS ratio = **3.9%**

A lower MIDAS rate thus does not necessarily reflect a better surgical record, but rather a lower rate of employing modern laparoscopic surgical approaches. Over the last 20 years, all Gynecologists have been encouraged to learn to perform appropriate cancer and general procedures by Outpatient laparoscopic approaches because the smaller incisions result in less pain, lower blood loss, shorter hospital stays, and quicker returns to work. I am proud that my GynOnc practice is 88% Outpatient laparoscopy.

This MIDAS Inpatient takeback ratio should not have been labelled as such in Sequoia’s computer. But a Quality Assurance Director should have known this was not a takeback rate. Dr. Chandrasena at least should have questioned why this “number” was so much higher than my takeback rate from her NSQIP printout data of 2.9% or the AHC’s data of 2.4% in her records.

Conclusion #1: Even with the same complication and total numbers, the MIDAS ratio changes with the proportion of open and laparoscopic cases, and is lower when more open-incision Inpatient surgeries are performed.

Conclusion #2: A higher MIDAS ratio, given the same complication and total numbers, is an indicator of more laparoscopic, Outpatient surgery, which is good for patients.

Conclusion #3: The MIDAS ratio is not a Takeback rate for surgeon quality assessment and comparison.

Conclusion #4: Dr. Chandrasena should have known that the MIDAS ratio was not a Takeback rate, and should never have alleged to the AHC, MEC and JRC that my Takeback rate was 20% compared to other Gynecologic Oncologists 3.9% rate.

Conclusion #5: Dr. Chandrasena should not have ignored her own QA-computer-calculated NSQIP takeback rate for my practice, or their own hand-counted takeback rate, in favor of a proprietary census ratio used for billing purposes.

1. Birkmeyer JD, Hamby LS, Birkmeyer CM, Decker MV, Karon NM, Dow RW. Is unplanned return to the operating room a useful quality indicator in general surgery? *Arch Surg.* Apr 2001;136(4):405-11.
2. Lin Y, Meguid RA, Hosokawa PW, et al. An institutional analysis of unplanned return to the operating room to identify areas for quality improvement. *Am J Surg.* Jul 2017;214(1):1-6.