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Last known well (LKW): the date and time at which the patient was last known to be without the signs and symptoms of the current stroke or at their baseline.

Correctly identifying a patient's **LKW time (LKWT)** is critical for determining their eligibility for time-sensitive acute ischemic stroke thrombolytic treatments. Accurately abstracting LKW can be very difficult, as there are often multiple times documented, and coding instructions are complex.

To make abstracting LKW easier, **always document the LKWT used to determine treatment**, as this is the intent of the question.

The Coverdell Learning Collaborative explored LKW documentation with some high-performing hospitals. Individuals shared the following:

Stroke Team Communication:

- "We have a physician order where they document LKW. That is the time that we take because by that time, they will have talked with the family/patient to get the LKW. So when we are abstracting that is where we go for this information."
- "We have done follow-up with the emergency department nurses to talk to them about making sure they are talking to the doctors about the LKWT to make sure that what they document is the same as the doctor. The doctor also has access to the flowsheet, so they document the LKWT in the flowsheet too."
- "Big thing is communication between nurse and in-patient unit so that it is documented the same throughout."

Quality Feedback:

- "We continue to provide monthly feedback to our internal stroke team and EMS staff on LKWT to be documented as a clock time."
- "I think the best thing is to just keep talking about it. When we have a nurse and doctor flowsheet mismatch, I send an email to the emergency room leadership so that a discussion can be had. Our coded N is small so it's a feasible option."

Abstraction:

- "We interpret the question as what the LKW was when they were making the treatment decision, not 12–24 hours later."
- "If LKWT is >24 hours, we choose 'unknown.'"
- "One thing that we have done is had a discussion amongst ourselves (the abstractors/coordinator) to make the decision that if the neurologist writes an LKWT that was significantly after the fact and that is different than the emergency department, we won't take that as our LKWT."

For reflection, the following are some case studies showcasing the variety in ease of documenting LKW:

- EMS arrived to AB's residence on 7/10/2020 at 2:10 p.m. Her daughter was present and states she found AB at 2:00 p.m. "in her chair slumped over. I couldn't understand what she was saying, and she was drooling from her mouth and her face didn't look right." EMS reports LKW as 2:00 p.m. Upon arriving to the hospital at 2:45 p.m. and with further questioning by the doctor, the daughter says her mother ate lunch at 12:30 p.m. and then went to sit in her chair where she was later found as noted above. Date and time of LKW documented by the doctor as 7/10/2020 at



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12:30 p.m., and date and time of symptom onset as 7/10/2019 2:00 p.m. The neurologist documents LKW as 2 hours before arrival.

Abstract LKW of the ED MD of 7/10/2020 at 12:30 p.m., as they state a specific date and time.

- EMS arrived to CD's residence on 6/10/2020 at 9:30 a.m. after a neighbor reported he did not answer his door. EMS responds and notes CD to be aphasic, confused, with inability to move his right side. EMS reports LKW as unknown. Arrival to hospital 6/10/2020 at 10:15 a.m. Emergency room staff report LKW as unknown. The next afternoon, the neurologist examines the patient in the presence of CD's daughter, who states that she had talked to her father on the phone the night before his stroke around 9:30 p.m. LKW by neurologist is documented as 6/9/2020 at 9:30 p.m.

Abstract LKW of EMS, ED MD, ED RN of unknown. The neurologist's documentation occurs a significant amount of time, "the next afternoon," after the treatment decision was made.

- EMS arrived to EF's residence at 5:15 p.m. on 7/9/2020. EF states she has had numbness to her left arm for 4 hours. Since it did not go away, she decided to call EMS to get it checked. Date and time of LKW reported as 7/09/2020 1:15 p.m. by EMS. Upon arrival to the ED at 6:00 p.m., the left arm numbness has completely resolved with NIH=0. While in the ED, the patient exhibits RUE being flaccid at 6:30 p.m. After a timely acute stroke workup, the doctor consults with a neurologist. Both state the LKW of 6:30 p.m. EF is determined to be an alteplase candidate. Later that evening, the hospitalist determines LKW to be, "about an hour after arrival."

Abstract LKW of the Neurologist and ED MD as 7/9/2020 at 6:30 p.m., as the "clock" restarts when symptoms completely resolve; and this was the time utilized to determine treatment.

- GK drives himself to the ED. He arrives 6/11/20 at 2:05 p.m. with complete aphasia. GK is also mildly confused and is unable to confirm (by headshakes yes/no and writing) his LKW with the ED stroke team. The LKW is initially documented as unknown by emergency staff. GK receives a call at 2:15 p.m. from his wife who states she talked with GK before leaving for work at 7:00 a.m. and he was normal. LKW is revised by the ED MD to 7:00 a.m. During the telemedicine consult with the neurologist, the wife calls back and states she recalled her husband had a haircut appointment at 1:00 p.m. She talked with the barber who said GK was normal when he left at 1:40 p.m. The neurologist places the LKW at 1:40 p.m. After timely acute stroke workup, GK is determined to be an alteplase candidate.

Abstract LKW of the Neurologist as 6/11/2020 at 1:40 p.m. as this is the time used to determine treatment.

References:

- Get with the Guidelines® - Stroke PMT® Abstraction Guidelines Updated June 2020
- The Joint Commission <https://manual.jointcommission.org/Manual/Questions/UserQuestionId03Stk101144>

