

VIDEO

Lou Gehrig, *Rawhide*, and 1938

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Abstract—Lou Gehrig was one of the most talented baseball players of all time; yet he is also remembered for ALS, the disease that took his life and still bears his name as its eponym. There is speculation about when his symptoms began. Some authorities believe that Gehrig showed signs of ALS when he starred in the film *Rawhide* in January 1938, which would mean that he played the entire 1938 season with symptomatic ALS. Additionally, some photographs of Gehrig showing atrophy of hand muscles have been dated incorrectly because of misinterpreted logos on his uniform. We examined the film and photos taken of Gehrig from 1937 to 1939 to determine whether he showed signs of weakness in the film and when visible evidence of ALS could be documented. Specific scenes from *Rawhide* were chosen to grade Gehrig's motor function using the ALS Functional Rating Scale (ALSFRS). Dates of photos and uniform logos were verified with the Baseball Hall of Fame. Examination of *Rawhide* showed that Gehrig functioned normally in January 1938. His ALSFRS score, modified to account for limitations of on-screen activities, was normal. The New York Yankees wore logos in 1938 that were labeled with the year 1939 to advertise the 1939 World's Fair; the uniforms displayed a centennial patch during the 1939 season. A photograph of Gehrig from October 1939 showed hand atrophy. Photos from the spring of 1938 showed normal hand muscles and leg function, implying that visible signs first appeared after May 1938.

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Lou Gehrig signed with the New York Yankees in 1923 and in June 1925 began a streak of 2,130 consecutive games that ended only when he became weak 14 years later. Despite numerous injuries, he won four Most Valuable Player titles, played in seven World Series, and compiled exceptional statistics.¹

In addition to his fame as a baseball player, Gehrig is also widely remembered for the disease ALS, which took his life and, in the United States, bears his name. In contracting ALS, he raised public awareness of the disease. Eleanor Gehrig, his wife, with the aid of her executor, George Polack, later gave his name and part of their estate to support a research center at Columbia University, the Eleanor and Lou Gehrig MDA/ALS Research Center² (Lewis P. Rowland, MD, personal communication).

Gehrig was a superb athlete, but he was also a stoic man. His quiet nature and lack of examination by a neurologist in New York when he first had

weakness³ have made it difficult to identify his first symptoms.⁴ He died in 1941, just 2 years after he stopped playing, and some photographs of Gehrig showing hand atrophy were taken while he was still in uniform.^{4,5} Some authorities believe that hand muscle atrophy and leg weakness were evident as early as the winter prior to the 1938 season when he starred in the film *Rawhide*; he used a Gowens maneuver to rise from the ground several times in the film.^{6,7} Eleanor Gehrig and other players noticed symptoms with certainty after the 1938 season.^{2,8}

Methods. We examined the film *Rawhide*, which was shot in January 1938,^{4,7} and inspected photos taken of Gehrig from 1937 to 1939 to elucidate the timing of Gehrig's first publicly visible signs of ALS. Specific scenes from the movie were chosen to grade muscle function using the ALS Functional Rating Scale (ALSFRS). Unambiguous scenes were selected to examine his hands for evidence of atrophy and to assess limb function, with the time of each scene noted. His Mayo Clinic records have been kept confidential and could not be reviewed (Eric Sorenson, personal communication).

We reviewed published photos^{4,5} and others in the Baseball Hall of Fame that were taken of Gehrig in the years 1937 to 1939 to determine when they were taken and whether there was evidence of hand atrophy or leg weakness. The dates of the photos were verified with the Baseball Hall of Fame, where photographs are identified by a date stamped on the back or by an accompanying news article (John Horne, library associate at the Hall of Fame). Information on the dates of uniform logos was obtained from a Major League Baseball uniforms book⁹ and from patch expert Tom Schieber (senior curator at the Hall of Fame).

Results. *Examination of Rawhide.* Gehrig's performance in *Rawhide* demonstrated good physical function. His ALSFRS score, modified to account for limitations of on-screen activities, was normal (score = 32/32; table). It was not possible to grade dressing, hygiene, or turning in

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Table ALS Functional Rating Scale for Lou Gehrig (January 1938)

1. **Speech**
4 normal speech processes
 3 detectable speech disturbance
 2 intelligible with repeating
 1 speech combined with nonvocal communication
 0 loss of useful speech
2. **Salivation**
4 normal
 3 slight but definite excess of saliva in mouth, may have nighttime drooling
 2 moderately excessive saliva, may have minimal drooling
 1 marked excess of saliva with some drooling
 0 marked drooling, requires constant tissue
3. **Swallowing**
4 normal eating habits
 3 early eating problems, occasional choking
 2 dietary consistency changes
 1 needs supplemental tube feedings
 0 NPO (exclusively parenteral or enteral feedings)
4. **Handwriting**
4 normal
 3 slow or sloppy, all words legible
 2 not all words legible
 1 able to grip pen, unable to write
 0 unable to grip pen
- 5a. **Cutting Food and Handling Utensils (patients without gastrostomy)**
4 normal
 3 somewhat slow and clumsy, needs no help
 2 can cut most foods, slow or clumsy, some help needed
 1 foods cut by someone else, can still feed slowly
 0 needs to be fed
- 5b. **Cutting Food and Handling Utensils (patients with gastrostomy)**
4 normal
 3 clumsy, able to perform all manipulations
 2 some help needed with closures and fasteners
 1 provides minimal assistance to caregiver
 0 unable to perform any aspect of task
6. **Dressing and Hygiene**
4 normal
 3 independent self care with effort or decreased efficiency
 2 intermittent assistance or substitute methods
 1 needs attendant for self care
 0 total dependence
7. **Turning in Bed and Adjusting Bedclothes**
4 normal
 3 somewhat slow or clumsy, needs no help
 2 can turn alone or adjust sheets with great difficulty
 1 can initiate, cannot turn or adjust sheets
 0 helpless
8. **Walking**
4 normal
 3 early ambulation difficulties
 2 walks with assistance
 1 nonambulatory functional movement only
 0 no purposeful leg movement
9. **Climbing Stairs**
4 normal
 3 slow
 2 mild unsteadiness or fatigue
 1 needs assistance
 0 cannot do
10. **Breathing**
4 normal (no change in breathing compared to prior to ALS onset)
 3 shortness of breath with minimal exertion (eg, walking talking)
 2 shortness of breath at rest
 1 intermittent (eg, nocturnal) ventilator assistance
 0 ventilator dependent

Modified Score: 32/32

ALS Functional Rating Scale: Lou Gehrig, January 1938. Based on his performance in the movie *Rawhide*, the relevant questions on the ALS Functional Rating Scale were answered. The activities of dressing/hygiene and turning in bed/adjusting the bedclothes could not be assessed owing to limitations in his on-screen actions. Gehrig was given a score of 32 of 32 on a shortened scale.

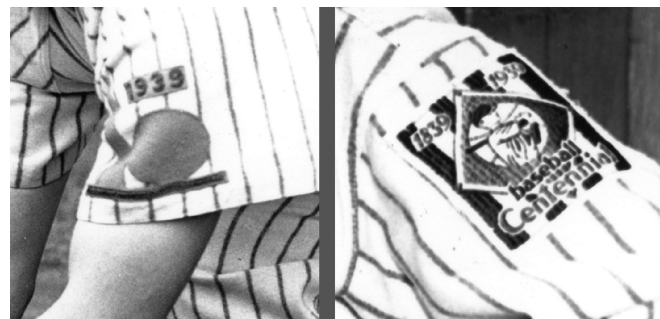


Figure 1. Uniform logos. The uniform logo on the left displays an advertisement for the 1939 World's Fair. The three New York teams wore this logo on the sleeve of their uniforms in 1938. The photo on the right shows the centennial patch that was worn by all professional baseball players in 1939. The logos can be used to discriminate between photos taken of Gehrig in 1938 and 1939.

bed because Gehrig did not perform these activities in the film.

Gehrig showed no bulbar signs in the film. His speech was normal; he spoke clearly and shouted on several occasions (1:30, 49:50). He took a bite and chewed a sandwich (43:00).

Gehrig demonstrated normal upper body strength throughout a bar fight in which he lifted an adult man overhead and threw him to the ground (22:00). Other shots showed normal bulk in the muscles of both hands (12:10 to 12:30, 24:40; see video segments 1 and 2 at www.neurology.org). Although left-handed, Gehrig wrote with his right hand. He signed an autograph showing normal writing ability and no atrophy in the right hand (1:40). Later, he handled teacups with ease (24:25); he also tied several knots in a rope (18:35), which, taken together with the tea scene, were used to substitute for the action of handling utensils.

Throughout the film, Gehrig exhibited good leg strength. He mounted and dismounted a horse, walked briskly (13:20), ran, and squatted to the ground (18:15). He climbed and descended stairs (47:50, 48:15) and was able to bend beneath a hitching post (48:15). Several times Gehrig rose from a seated position without using his arms and hands to push himself up. He exited a car (11:55), hopped to a stand from a seated position (16:30; video segment 3), and later rose from a bench while clapping his hands (41:50; video segment 2). At the end of the film, he leaped over a chair (57:56; video segment 4).

Gehrig's breathing seemed normal during action scenes, and he maintained strong voice volume during conversation. He also showed normal diaphragm excursion when he sighed visibly in one scene (12:07).

Examination of photos. The New York Yankees wore logos in 1938 that were labeled with the year 1939 to advertise the 1939 World's Fair, while all professional baseball uniforms displayed a centennial patch celebrating 100 years of baseball during the 1939 season (figure 1). A photograph from May 1938 shows normal left hand bulk and suggests normal leg function (figure 2). A photograph of Gehrig taking a swing in September 1938 implies good leg strength (figure 3). Photographs from 1937 are consistent with the ones from 1938, whereas photographs from the 1939 season show visible hand atrophy. One previously

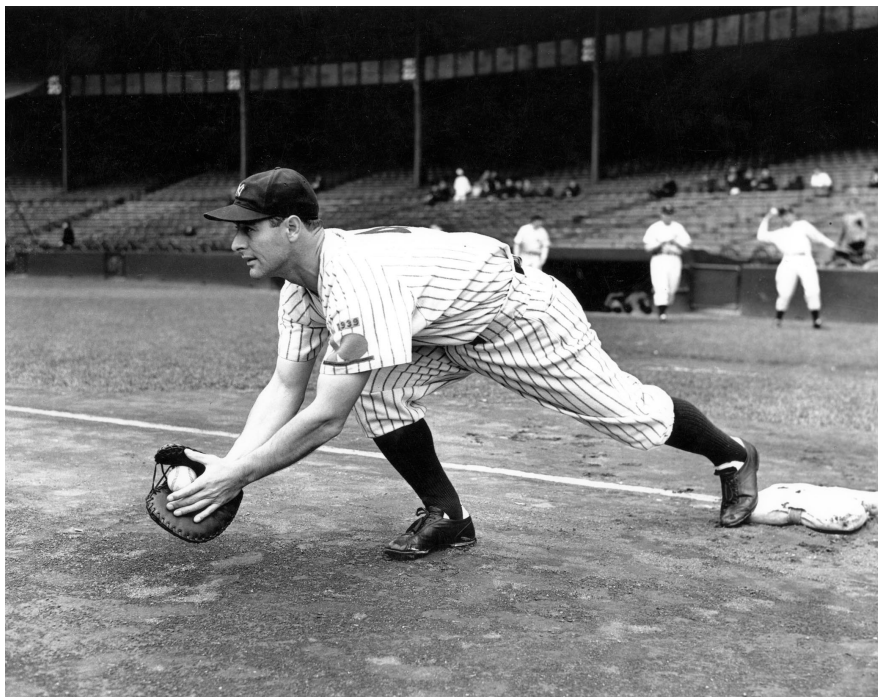


Figure 2. Gehrig at first base, May 1938. This photograph depicts Gehrig's normal-appearing left hand musculature. His stance supports normal leg function.

published photograph with hand atrophy⁵ could not be dated with certainty, but was most likely shot in October 1938 (John Horne, Baseball Hall of Fame). The first identified photograph showing clear hand atrophy where both the month and the year are known was taken in October 1939 (figure 4).

Conclusion. Gehrig's reserved nature makes it difficult to construct a clear timeline of the onset and progression of the disease. Newspaper quotes from Gehrig suggest that he attributed his decline to deconditioning and that he minimized his early symp-

toms.¹⁰ Opinions about his symptoms by his contemporary ball players have the benefit of hindsight.¹¹

Gehrig's fame as a star baseball player, matched by his legacy in ALS, makes correcting the historical record of his life important. By directly examining film footage and photographs, we documented his physical condition in 1938 and 1939 to the extent possible from publicly available images.

Several scenes from the film *Rawhide* illustrate exceptional strength and coordination consistent



Figure 3. Gehrig mid-swing at Comiskey Park, September 1938. The deep squat captured in the photo lends support to good leg function.



Figure 4. Gehrig with Yankees manager Joe McCarthy, World Series 1939. This photograph taken in October 1939 shows visible hand atrophy and can be used as a point of comparison with earlier photos.

with his profile as top athlete. A scene in which he lifted an adult man over his head has been viewed frame by frame to ensure that Gehrig and not a stunt double performed the feat.⁴ Gehrig suffered numerous injuries to his hands during his career, which explains the deformity of his left fifth finger,^{2,12} but his hands showed normal musculature in the film.

Several occasions in which Gehrig placed his hands on his legs or the arms of a chair as he stood up seem to reflect his acting technique rather than a physical need. In other instances, Gehrig rose from a seated position without the use of his hands. A photo snapped mid-swing from September of 1938 season shows Gehrig in a deep squat, a stance that would be difficult for someone with leg weakness to perform.

Contributing to the complexity of establishing a clear timeline for his symptoms, the literature contains occasional photographs of Gehrig that were reported as taken in 1939 when in fact they were shot in 1938. The 1939 World's Fair patch, identified by the Baseball Hall of Fame, was worn by the three New York City teams in 1938. The 1939 uniforms bore a centennial patch, allowing for discrimination between years but not the month.⁹

An analysis of his batting average, probably the most sensitive measure of symptom onset in a professional baseball player, showed that he began the 1938 season at a lower but steady percentage compared with previous years and that his average declined markedly after June 1938.⁶ It is likely that denervation severe enough to cause visible atrophy or leg weakness would follow, not precede, a decline in as sensitive a measure of athleticism as batting average.

A careful examination of the western film *Rawhide* provides compelling evidence that baseball great Lou Gehrig functioned normally in January 1938; we found no evidence of hand atrophy or leg weakness in the film. Uniform patches, correctly identified, can be used to discriminate between photos of Gehrig taken in 1938 and 1939. Photos taken as late as September 1938 show apparently good leg strength, and images from late 1938 and 1939 show hand atrophy. Photographs taken in May 1938 showed normal hand bulk and imply that there was no visible evidence of ALS prior to mid-season 1938.

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