HAPE, PARTY SEPARTED

Alaska, Mount McKinley, West Buttress

On May 28 at 0745, John Tatzalaff (39) of Team Springer Zissou requested NPS assistance at the 14,200-foot camp because he was experiencing difficulty breathing. A thorough examination by Paramedic Paul Nelson revealed that Tatzalff was experiencing symptoms consistent with High Altitude Pulmonary Edema (HAPE). Tatzalaff presented with crackles in his lower right lobe, tachycardia and a decreased 02 saturation. After consultation with Denali National Park and Preserve physician Dr. Jennifer Dow, Tatzalaff was administered 250mg of Diamox and oxygen at four liters per minute via nasal cannula. Medic Nelson was unable to detect any significant loss of neurological function. After thorough examination and monitoring throughout the day, it was determined, in consultation with Dr. Dow, that Tatzalaff required evacuation.

Though Tatzalaff was a member of a two-person team on his ascent to the 14,200-foot camp, apparently the team of two decided to disband once reaching the 14,200-foot level. Due to the fact that Tatzalaff was now a solo climber on the mountain, he required NPS assistance for evacuation. At 1605, he was evacuated by the NPS helicopter to basecamp at 7,200-feet and transferred to Lifeguard for transport to an Anchorage hospital for further care.

Analysis

Though Tatzalaff ascended at a moderate rate well within accepted norms, he still developed HAPE. Due to sometimes unexplainable circumstances, this happens to even the most experienced climbers. Tatzalaff's lack of climbing with a partner led to the needed intervention and evacuation by the NPS. If Tatzalaff had been climbing with partners, he could have descended with them to a lower elevation with little or no NPS assistance. (Source: John Leonard, Ranger)

(Editor's Note: There were three other altitude-related cases this year, all of them occurring to individuals who had NOT ascended too fast. In one case, the team returned by helicopter to the 7,200-foot level, but the person continued to experience symptoms of AMS.)

OVERDUE CLIMBERS–DISAPPEARED, PROBABLY PERISHED IN A SNOW CAVE FROM HYPOTHERMIA AND/OR ASPHYXIATION, LOST PACK CONTAINING CRITICALLY NEEDED SUPPLIES, WEATHER

Alaska, Mount Foraker, Infinite Spur

Sue Nott (37) and Karen McNeill (37) registered with the National Park Service on March 13th as "Turtle Team" expedition for a climb of the Infinite Spur route on Mount Foraker. Nott checked in at the Talkeetna

Ranger Station on April 19th while Karen McNeill checked in on May 9th. Noted on the check-in form as a rough itinerary were plans to attempt the Moonflower Buttress on Mount Hunter between the dates of April 23 and May 10, followed by the Infinite Spur on Mount Foraker in the period from May 10th to June 8th. The team gave their return date as June 10th. Ranger John Evans noted their intentions to inform basecamp on finer details of their plans. Nott flew to the Southeast Fork of the Kahiltna Glacier on April 23rd. On April 28th Nott and Zoe Heart, who were registered on a separate backcountry itinerary, attempted Deprivation on Mount Hunter. On May 7th Nott and Heart climbed the Mini Moonflower on Mount Hunter. McNeill flew to basecamp on May 9th.

On May 12th Nott and McNeill informed the basecamp manager, Lisa Roderick that they were departing to climb the Infinite Spur on Mount Foraker. Roderick gave them an 'FRS' walkie-talkie-type radio with which to contact basecamp once they were up higher on the route. Nott and McNeill said they would call once able and also told Roderick they were carrying fourteen days of food. Nott and McNeill were also thought to have left basecamp with eight to ten eight-ounce fuel canisters. This information came from subsequent conversations with John Varco, Nott's partner, who had also been at basecamp at the end of April and beginning of May. Nott and McNeill left basecamp on skis for the approach to the route, which travels down the Southeast Fork to the main Kahiltna Glacier where it continues down-glacier, cutting west at a side glacier referred to as the Southwest Fork. The route then traverses a pass referred to as 1st Pass and drops onto an upper arm of the Lacuna Glacier. This is where the pair left their skis, some extra gear, two full fuel canisters, and approximately four days of food. Nott and McNeill then continued over 2nd Pass and onto the Snow Shoulder. This area provides a good view of the route from a relatively safe vantage point. On May 14th Will Mayo and Maxim Turgeon, who were attempting a new route on the South Face of Mount Foraker, made contact with Nott and McNeill. The two teams conversed and then went their separate ways. Mayo later noted that their packs were large, but he had no information on what they were carrying in terms of gear and rations. Mayo also noted that they heard a large avalanche sometime later and checked to see where Nott and McNeill were in relation to it. At that point Mayo did observe them safe at the base of the route. This was the last contact and point last seen of Nott and McNeill.

What occurred in the intervening two-week period, including Nott and McNeill's progress on the route, where they camped, and on what days they were able to move, are unknown. A chronology of the weather as it was observed from basecamp and the 14,200-foot camp on Mount McKinley is

summarized below to give some information as to what days may have been conducive to travel. John Varco believes that the pair most likely planned for their ascent to take twelve to fifteen days. At basecamp weather was reasonable with planes able to fly at least part of the day on May 14–16 and May 19. On May 17, 18, and 20, weather was down and no planes were able to reach basecamp. Snowfall was intermittent and fairly minimal and winds were not reported as particularly strong at either basecamp or the 14,200-foot ranger camp. During this first week when Nott and McNeill were on the route, weather was not particularly good, but it is unclear the degree to which weather conditions would have hampered their climbing if at all. For the second week after Nott and McNeill began their climb, conditions continued to be similar from May 21–25, with flights able to get into basecamp. Winds began to increase on May 25th and for the next six days, strong to extremely high winds were reported. The dates of this wind event correspond to the twelfth through fifteenth days that Nott and McNeill were on the route. On May 31st, weather was still marginal. Discussions between Ranger John Evans and staff in Talkeetna began regarding concern over Nott and McNeill's whereabouts. Evans and others at basecamp had been scoping the descent route for several days, but had seen no sign of Nott and McNeill. Also on that day Paul Roderick of Talkeetna Air Taxi called South District Ranger Daryl Miller to express his concern over Nott and McNeill's welfare. Roderick flew the route on May 29 and 30, as well as on at least one other occasion in the prior weeks. Roderick was not able to view the entire route. The portions that were visible to him yielded no evidence of the team other than their approach tracks. On May 29th Will Mayo also flew over the route with pilot David Lee of Talkeetna Air Taxi. Mayo felt he had a good view of the upper half of the route, but saw no evidence of the team. David Lee flew past the route again on May 30th and saw nothing different. In addition, Mark Westman, who climbed the route in 2004, flew over the route on May 21st and saw the same approach tracks leading to and over the bergschrund at the base of the route but nothing above. John Varco was contacted via telephone in the late afternoon of May 31st subsequent to Roderick's phone call to get his assessment of the situation. It was at this point that Varco expressed that he believed it would take the pair twelve to fifteen days to complete the route and the descent. Varco also commented that it was possible for them to stretch their food and fuel as they had done on the Cassin in 2004. Further consideration was given to the situation the following day. At 1700, Chief Sub-district Ranger Daryl Miller made the decision to initiate a search.

On the evening of June 1st, the Lama helicopter, piloted by Jim Hood, made two initial search flights. The first flight with Dave Kreutzer and Mike

Barstat on board searched the Infinite Spur and the intended descent route, the Sultana Ridge, and Mount Crosson from 9,000 to 14,000 feet. Clouds obscured the lower part of the route and the upper part was not searched due to operational restrictions. The second flight with Ranger Meg Perdue on board focused on elevations above 13,000 feet on the route and descent. Possible tracks were observed at the 14,000 to 14,400-foot level traversing onto the Knife Edge Ridge feature of the Infinite Spur. No other evidence of the team was seen on the route or the descent. On June 2nd four flights using the Lama were conducted. Mark Westman and Perdue were on board for the first two flights. On the first flight Westman was able to confirm the tracks that Perdue had seen the previous night as well as identify tracks on sections of the lower part of the route. Westman was confident that he had a good view of the lower parts of the route to 12,000 feet and that Nott and McNeill were not on it. Towards the end of the flight, the debris cones to the west and east of the base of the route were searched. Gear, including a blue and black sleeping bag and a blue and black pack, was seen in the debris cone approximately 100 yards to the east of the start of the route. The sleeping bag was approximately 100 yards west from the pack. No persons were visible or believed to be attached to the gear. It was determined that due to the potential for further avalanche activity, it was unsafe to put personnel on the ground to retrieve the gear or engage in a ground search of the area. On the second flight, possible fall lines consistent with the gear's location were searched, but nothing else was found. At the end of the flight the debris was again searched. A red fleece jacket was also observed 100 yards east of the pack. The third flight used the hydraulic "Grabbers" to retrieve the pack. The pilot is confident that nothing exited the pack while in flight. The pack was later confirmed to be the one carried by Nott. The main compartment and lid pouch of the pack were empty with only a few items, including the FRS radio, in a zipped pocket on the underside of the lid pouch. The pack did have a Ridge Rest sleeping pad still attached with a single strap.

The fading pattern due to the strap's position indicated that the pack was likely lying in that orientation for at least several days prior to its discovery. The pack itself did have several tears, but none so large that it would have been a likely exit route for all the contents. The pack's buckles and straps were undamaged, the hip belt buckle was unfastened, the shoulder straps were relatively loose, and the drawstring on the main compartment was also loose. It did not appear that the pack had been configured for hauling, nor does it seem likely that Nott was wearing it when it fell. On the fourth flight Perdue again searched upper elevations of the route and descent. Photos were taken and nothing new was observed. Flight operations were

concluded for that day and Perdue was brought out to Talkeetna to brief the search management team.

On the morning of June 3rd, the search area was segmented and probabilities of area calculated for each search segment. The criteria for probabilities of detection (POD) were based on a pack-sized object and the goal for cumulative PODs set at a minimum of 50 percent. From June 3rd to June 6th, Lama flights and fixed wing aircraft continued to search the Infinite Spur route, potential fall lines from various points on the route and possible descent routes. In total, twenty-seven hours of aerial searching were conducted and the minimum cumulative POD's were achieved for each segment. During this period of the search, hundreds of aerial photos were taken. Based on observations and subsequent photo analysis, tracks were confirmed at the 15,500 to 15,800-foot levels in the Exit Gullies, the 16,400-foot level, and finally the highest likely tracks established at the 16,600-foot level. These upper sections of tracks were on lower angled terrain leading to the south (false) summit, elevation of 16,812 feet. The true, north summit lies a mile beyond this over relatively non-descript terrain. While snow conditions in certain sections could be reasonably expected to retain tracks, no tracks were seen anywhere along the summit plateau though. Also during this same period, observers were placed on the ground at the Snow Shoulder feature to scope the route and call in weather observations to facilitate aerial search activities. While a few possible objects for investigation were seen from this location, none turned out to be anything. Checks were continually made of the debris cone throughout this period to determine if any additional evidence appeared. A brown fleece hat, one glove, a small yellow stuff sack, and a pink wind shell became visible over the course of the search.

Starting on June 7th, the weather precluded search efforts, and through June 14, only one high-level fixed wing flight was possible. As of June 11th, 28 days had passed since Mayo and Turgeon's last sighting of Nott and McNeill at the base of the route. An optimistic estimation would be for a fuel canister to last one-and-a-half to two days, in which case Nott and McNeill would have been out of fuel to make water for seven to ten days. Based on these circumstances, the probability of survival was considered to be extremely low, so the search operation was scaled back. Weather continued to hamper any searching and the next opportunity to fly did not come until June 15th. At that time the Lama was able to search the route to 14,500 feet, but found no new evidence. Nott and McNeill's cache at the base of 2nd Pass was retrieved. This cache was found to contain two fuel canisters and approximately four days of food, thus lessening the food and fuel that the pair was thought to have with them on the route.

On July 9th, the NPS contracted Lama helicopter attempted to fly the search area, but because of high winds moving downward from the summit, it was determined to be an unnecessary high-risk flight. The decision not to fly the upper mountain was made by both the pilot Jim Hood and the helicopter manager Dave Kreutzer. The Lama did fly at approximately 8,000 feet with careful attention given to the debris cones near the bottom of the route. No new evidence was found.

On July 10th, Kreutzer and Hood met with South District Ranger Daryl Miller to express their concerns for the safety of any personnel flying in a search mode, involving hovering up and down the search area, on Mount Foraker. Because of this concern, the fact that there were no signs of Nott and McNeill, aside from the one pack and the tracks that had been found since the search was initiated on June 1st, and that over twenty-eight hours of low-level aerial search had been conducted by the NPS and numerous fixed wing aircraft flights, Miller requested permission from Superintendent Paul Anderson to suspend the search. Anderson agreed with the risk assessment and gave permission to do so.

Analysis

The difficulties of providing an adequate analysis of what transpired in this situation are obvious. With so much left unknown about what exactly occurred, it is only possible, based on the pieces of factual evidence available, to outline possible scenarios and discuss the likelihood of each. The three major issues that can be addressed are 1) the loss of the pack, 2) what happened to Nott and McNeill, and 3) the question of survivability.

How was the pack lost? The pack's location and condition figure heavily into the basis for the following scenarios:

1. *The pack fell over or was blown off the route while sitting on ground.*

Very likely: The relatively undamaged condition of the pack and the gear that was found in its vicinity suggests that Nott and McNeill were taking some sort of break or breaking/setting camp when the pack fell. In addition, extrapolating on where the pack was found, the main fall line leads to two locations at 11,500 feet or 11,800 feet at the start of the Ice Rib. These are two of the prime bivouac sites on the route. Retreat from this location would have been possible, but everyone who knew both climbers agreed that they would have continued the climb, especially if the majority of their fuel and food had not been in the pack at the time of its loss.

2. *The pack fell while being hauled.*

Very unlikely: The pack was not rigged for hauling, the buckles were undamaged and the drawstring closures were undone. The pack's haul loop with carabineer attached was intact and the pack's straps were not cinched down, as would be expected in a hauling configuration.

3. *The pack fell with a climber.*

Very unlikely: The route that the pack would most likely have taken to end up where it was discovered involves multiple falls over steep rock and ice. Any person falling over this terrain would have suffered significant trauma, leaving blood signs on the gear. That the pack was devoid of any visible body fluids negates this theory. In addition, the condition of the pack, including the positioning and lack of damage to the straps and buckles, rules out that it was torn from a falling climber.

What happened to Nott and McNeill? The major piece of evidence that must be considered in framing this discussion is the location and elevation of the tracks seen. There is very little, if any, doubt that the tracks seen on the Infinite Spur route are Nott and McNeill's. The Infinite Spur was last climbed in 2004, while the Talkeetna Spur route on Mount Foraker, which was climbed most recently in 2005 by Nott and Varco, did not show any evidence of their ascent. It is exceedingly unlikely that one route could have held tracks for two years while another route on the same mountain with the same aspect and elevation wouldn't hold them after a year. In addition to the time spent searching, hundreds of photos were studied, and while it is not possible to say with 100 percent certainty that what are believed to be tracks from 16,400 to 16,600 feet are actually tracks, it seems highly likely. Additionally, even into these upper elevations, a careful photographic analysis indicates that most likely the tracks are double, meaning two climbers made them. This suggests that Nott and McNeill essentially made it at least to the top of the route. At that elevation the slope angles are greatly reduced and the difficult sections of the route are accomplished. That no tracks were seen above this point to the false south summit or onto the true north summit nor anywhere down the descent constitutes a pertinent negative. While much of the summit plateau would have not held tracks well, it appeared from the air that snow in at least some places might have held tracks, but none were seen. A number of parties attempted the Sultana Ridge—the descent route—in 2006, but only one of those parties even made it onto the Sultana Ridge itself. This party made it as far as The Way at 11,300 feet, and evidence of their ascent was visible during the search. The potential scenarios as to what happened to Nott and McNeill fall into three main categories: falls (some involving weather), avalanches, and exposure/exhaustion. Each will be considered in turn.

Falling Scenarios:

1. *One Climber (Nott with pack) fell during the first part of the climb.*

Did not occur: Photo analysis of the tracks exiting the Knife-Edge Ridge at 14,600 feet clearly show two distinct sets of tracks. The location of the pack means it is extremely unlikely to have fallen from somewhere other than the "Ice Rib" section of the route between 11,500 and 11,800 feet.

2. *Both climbers fell on the upper portion of the route.*

Did not occur: Analysis of the probable tracks photographed at the 16,600-foot elevation also suggests that two individuals were traveling. The slope angle of this terrain is 30 degrees or less and any fall would not have carried the climbers far and therefore they would have been seen during the search.

3. *One or both climbers fell during descent of the Sultana Ridge.*

Highly unlikely: The planned descent route was the Sultana Ridge. During the time the climbers would have been descending from the north summit, another climbing party was on the first half of the Sultana and did not see them or evidence of their passing. Examination of the snow and terrain leading to the Sultana did not show any evidence of human passage and tracks would have been found had a person traveled over the area. Following the 25–29th wind event, the descent route and the approach to the north summit was also examined by a spotting scope from basecamp, but no one was seen moving high on the route.

4. *One or both climbers fell during descent of an unplanned alternate route.*

Highly unlikely: Nott was intimately familiar with the Talkeetna Ridge, having ascended it the year before. This is the closest route to the Infinite Spur and to where their last tracks were seen. Examination of the Talkeetna Ridge did not show any human presence. Footsteps would have been found had someone attempted to descend it. The two climbers were also aware of some existing rappel anchors on the French Ridge immediately to the east of the Infinite Spur. An aerial search of this ridge revealed the footprints of Mayo and Turgeon, but none were seen leading down to the rappel point.

5. *Climbers fell into crevasse during ascent or descent.*

Unlikely: It is possible that one climber fell into a crevasse, but the possibility that both climbers fell in and were unable to extricate themselves is very unlikely. Both climbers were very experienced with glacier travel and would have been traveling roped together. Had one climber fallen in, the other would be able to aid in extrication and even if that weren't possible, the climber not in the crevasse would have been able to travel and leave additional signs.

6. *Climbers were blown off mountain while traveling.*

Unlikely: In 2005 Nott climbed Mount Foraker via the Talkeetna Ridge. John Varco, her climbing partner, reported that in 40-mph winds she was forced to crawl along to keep from being blown over. If this had occurred in the location the last tracks were found, the resulting fall would not have been in any way significant. Using 40 mph as the upper limit of wind velocity that the two climbers would have been able to travel in, it can be safely stated that the climbers would not have been lifted up and blown any distance beyond

a couple of feet. The fact that Nott was unable to travel in 40-mph winds also eliminates the possibility that both individuals intentionally climbed into the windstorm occurring on the upper reaches of the mountain. The tracks that were found would not have remained after the storm had the two climbers made them during the severe conditions. The tracks would have required time to set to withstand the wind scouring that followed. In addition, at the 14,200-foot camp on Denali, it was noted that tracks made in the preceding days of the storm were still evident afterwards, but areas that people had walked during the storm had been scoured clean. This point supports the theory that the two climbers had reached the 16,600-foot level the evening prior to the storm, because it would have given the resulting tracks time to consolidate. They also would not have been able to reach the highest point where the tracks were last found in any appreciable storm.

7. *Climbers were blown off mountain in their tent during bivouac.*

Possible but unlikely: Had the climbers been bivouacking in the vicinity of the south summit, it is possible to have been rolled off the flat terrain and into one of the couloirs to the southwest of the point the last tracks were seen. However, no evidence that would support this theory was found during the aerial searches.

Exposure/Exhaustion scenarios:

1. *Climbers died from exposure on the surface.*

Highly unlikely: The extensive searches conducted from the helicopter at low altitude and low airspeed would have revealed any human remains on the surface. This would not have been the case with just snowfall, but since the entire summit plateau of the mountain had been scoured by wind, anyone lying on the surface would have been seen.

2. *Climbers perished during storm in a snow cave.*

Likely: The windstorm did not suddenly appear; the onset was over several hours. Had the climbers been in a tent, they would have had ample time to vacate it as the conditions worsened. There are also ample crevasses located in the vicinity of the south summit that would have afforded easy access to shelter.

The likely scenario after taking shelter in a snow cave is that the entrance was covered by drifting snow and the individuals either succumbed to hypothermia (only one sleeping bag and pad was available) or died from asphyxia or carbon monoxide poisoning while they were either asleep or trying to procure water. This would not have occurred early in the storm. It would have been a gradual onset as the storm continued unabated over five to six days. When search operations commenced, neither would have been alive or in any condition to dig themselves out to signal rescue forces.

The question of survivability: The survivability of any of these scenarios

is again speculative, but can be discussed in the context of other accidents and their survivability. Falls occurring on technical, steep terrain while occasionally survivable generally cause serious injuries or fatalities, even if initially survivable without immediate help, situations such as this usually soon become fatal. Falls on lower angle terrain or involving a crevasse could have caused an injury that prohibited movement for one or both of the climbers, at which point other factors including weather, lack of equipment or supplies, and exhaustion would contribute to a low survivability over time. An avalanche scenario would have a range of survivability for the initial event, depending on the size of the avalanche, the terrain traveled over, and the distance traveled. Once entrained in debris, survivability drops rapidly after the first thirty minutes, with almost no possibility of survival after twenty-four hours.

A scenario involving exposure or exhaustion would also have a range of survivability, the most critical factor here being the amount of fuel available to melt snow for water. Secondarily, food and equipment available to preserve metabolic capacity would also become factors. As discussed elsewhere in this report, they had fourteen days of food when they left basecamp on May 12th. Approximately four days of food and two fuel canisters were found in the cache at the base of 2nd Pass. This left them with six to eight canisters and ten days of food. Stretching their fuel and using the most optimistic of usage estimates would allow for a canister to last one and a half to two days. Assuming that no canisters were lost with Nott's pack, twelve to sixteen days was the most their fuel could have been expected to last, meaning that sometime between May 25th and May 29th, they would have been out of fuel. Also assuming that no food was lost with the pack and stretching their food half again as many days, they would have exhausted their supplies in that same timeframe. Without water, an individual cannot survive for more than a week. While everyone who knew Nott and McNeill agrees that they had highly developed survival instincts and tremendous will and endurance, there are physiological limitations for all human beings that simply cannot be ignored. While their possibility of survival during the first week in June, during the most intensive part of the search, did exist, that possibility dropped to almost nothing by the time the search was scaled back on June 11th.

Whatever the scenario that Nott and McNeill were involved in, contributing factors to its tragic outcome most definitely include the weather and most likely the loss of Nott's pack during the climb. Such a severe and prolonged wind event as occurred during their second week on the climb would be a test of survival under the best of circumstances. When undertaking difficult, technical routes at high altitude, the margins of safety are often razor thin and such a storm event is extremely likely to have contributed to

the fatal outcome in this situation. The loss of equipment is another factor that likely played a role in pushing this situation to its terrible conclusion.

Any piece of gear, particularly a sleeping bag, could be critical to survival when dealing with a situation involving prolonged cold and exposure. The loss of the radio was also tragically unfortunate, as it left no way to contact help if Nott and McNeill were capable of it. The potential fatigue and exhaustion would also be greatly exacerbated by the potentially prolonged period during which the pair was operating with minimal water and food.

As anyone reading this is all too aware, it is unfortunately impossible to know exactly what happened to Sue Nott and Karen McNeill. That will weigh heavily on their family, their friends, and members of the climbing community who wish to make some sense of this accident. The NPS has great confidence, given the amount and character of the searching conducted, that if the pair were visible within the search area, in other words not below the snow's surface either in a crevasse, debris, or a cave, they would have been found. This is certainly part of the basis for assessing the likelihood of each of the scenarios discussed above.

But of course many other factors go into each assessment, the most important being the physical evidence available and the collective knowledge and experience of the dozens of individuals involved in the search as well as the expertise contributed by many members of the climbing community. And while it could be endlessly debated exactly how each piece of information should be weighed and interpreted, ultimately it will not resolve the issue of what happened to these experienced climbers and is only useful to the extent it educates others towards the prevention of accidents in the future. (Source: Meg Purdue, Ranger)

(Editor's Note: This report is included in its entirety in order to demonstrate the level of care and hard work that is put into each search, rescue, and investigation. Special thanks to Daryl Miller, Chief Sub-district Ranger, for his oversight and years of dedication.)

FROSTBITE—INADEQUATE CLOTHING
Alaska, Mount McKinley, West Buttress

On June 2nd, guided expedition AMS-5-Wilkinson departed the 17,200-foot camp on the West Buttress of Mount McKinley for the summit at 0600. This group of six, including two guides, flew to the mountain on May 15th and had made gradual ascent to the 17,200-foot camp in the previous days. The forecasted condition for June 2nd called for cold temperatures and clear skies with moderate winds. During the group's ascent to Denali Pass, member Richard Salter (47) was unable to keep his hands warm. Upon reaching Denali Pass, Salter removed his gloves. His hands appeared pale. Salter alerted AMS guides Wilkinson and Egan to the condition of