Summary

Definition: in extreme circumstances; especially: at the point of death

Tony survives Afghanistan, but he doesn’t expect the thing in his chest to be what nearly kills him. Over and over and over.
But it turns out that having an arc reactor in your chest is really hazardous to your health. If the pneumonia doesn't kill him, the flu sure might.

Notes

ART HERE by red_b_rackham

Chapters will be posted throughout the day today.

Shoutout to readerofmuch for beta-ing this thing for me, even though sometimes I ignored you. Sorry.

See the end of the work for more notes
Chapter 1

Tony was generally a bit more of a mess than he let on.

He was referring to his physical state, even though mentally he was a bit fucked up, who wouldn't be after all he'd been through? But physically, he was a mess.

It all started with the arc reactor. (No, that wasn't true, the alcoholism started long before he ended up in a cave, he disregarded his body ever since he was responsible for taking care of it, which was since Jarvis, the real Jarvis... well. And he'd never been particularly healthy as a child, constant ear infections, croup until he was twelve, twelve, honestly.) The major problems started with the arc reactor.

The thing that exploded in his face literally had his name on it. And despite his vest, which he'd designed to be better than a bulletproof vest, better than anything on the market, better than kevlar, there was no way he was getting out of that in one piece. And he knew it.

There was blood, there was blood, and then there was nothing.

He woke up during the ransom video, when they were threatening whoever the hell they thought would pay for his return, which was no one, there was a no ransom policy at SI, which he'd created.

He was starting to regret that a bit.

His entire torso was shittily bandaged, and there was blood peering through the swathes of white. Most of it seemed to be on the left side of his chest.

Well shit. That was fine, he didn't need a heart anyway.

After that there were only scattered memories, people holding him down, the pain that seemed to burn a hole right through the middle of him, screaming that was probably him, and bright lights while people stood over him.

The next time he woke it seemed calm. He was cold, and there was a tube in his nose and pain in his chest.
He didn't know then that pain tended to linger.

Apparently the surgery saved his life, but wouldn't for much longer. The battery hooked to his chest wasn't a sustainable solution, so with the help of Yinsen, who was coincidentally a surgeon and the only reason Tony was still alive, they miniaturized the arc reactor technology and shoved one of those in his chest. This involved making an even larger cavity in his chest, shaving off more of his ribs, and doing all of this without anesthetic.

Tony decided he hated Afghanistan, caves, and everything that led to him being there, which included... weapons.

No more weapons. No more.

After two surgeries, making a suit of armor was the easy part. Destroying the compound was simple. *(He burned every last one of those bastards he could find, rage and hatred and sorrow spurring him on.)*

Flying... was less so.

There was an instant where he thought this was how it would end, escaping from terrorists only to die from a crash landing in a desert, but he survived the fall, and then he survived the staggering walk through the sand dunes until there was the most beautiful thing he'd ever seen.

*Rescue.*

Tony could have kissed Rhodey, and might have if he hadn't been so close to passing out.

He spent the next week in a hospital in Germany, some giant place with a military ward, but he wasn't military, and he would have protested if it hadn't been so nice to have painkillers and anesthesia and food and people who spoke English instead of shouting at him in languages he didn't speak.

After that it was home.
He apparently had a dislocated shoulder, but he hadn't noticed because of the pain in his chest, which was still present, and he was beginning to realize, would always be.

He had a referral for a pain management specialist, mostly because none of the doctors at the hospital in Germany knew what to do with him, and didn't know how to help in any other way.

Pepper had been crying, and Tony didn't tell her that he had been crying too, for many reasons. He just smiled at her and told her to call a press conference. He didn't go to the hospital, instead he got burgers and told the world he was shutting down weapon production, because he'd seen first hand the damage they could do.

No more.

He didn't go to the hospital the next day, or the day after that, just kept taking the prescription painkillers he'd been given on his discharge and washing them down with fine whiskey. He didn't so much fall asleep at night as he passed out.

He made a new set of armour and he saved those people in Gulmira and he saved that pilot, and he was starting to think he could really do it, when he found out that the only person he couldn't save was himself.

Obie took the arc reactor right out of his chest and left him there to die, and he could feel the shrapnel inching its way into his heart and he thought this is the end right before it wasn't.

Crisis averted, apparently.

So he saved the world, sort of. He saved a part of it, certainly.

He ran out of painkillers and didn't get them refilled. His sleep was plagued by nightmares, of being in the cave, of being tortured, of wandering alone in the desert until he turned to dust, of Obie with gaping holes where eyes should be plucking the very heart out of his chest.

Needless to say, he didn't sleep well.

Lack of sleep led to him being run down, which combined with his shitty lifestyle and diet
consisting of coffee and other sources of caffeine led to him getting pneumonia his first winter back and nearly dying.

He woke up four days later in the ICU. Pepper's face showed clear evidence of having been crying, and Rhodey was there with two days worth of beard on his face. Even Happy... well he wasn't happy.

That was when he learned that because of the shitty thing in his chest, he was always going to be more likely to get chest infections. Colds could kill him. Pneumonia very well might. The flu would practically be a guaranteed hospital stay.

He'd been so busy focusing on the other things (pain guilt nightmares working) that he hadn't even considered the toll it would take on his body.

Or maybe he just didn't want to.

His lung capacity had been reduced, the reactor was acting as a pacemaker, and half of his sternum was gone. Plus he had a large opening in his body that lead to some of his most vital organs.

Honestly, it was a wonder he hadn't died of some weird infection back in the cave.

After getting over the initial nearly dying, there were more doctors and medical professionals than Tony ever wanted to see in his lifetime. Respiratory therapists who trained him how to breathe, like he hadn't known how to do that since birth. Cardiologists who tutted at his chest x-ray and print outs of his EKG. Infectious disease specialists who lectured him on the importance of antibiotics, the prevention of antibiotic resistance, and the need to get vaccinated against literally everything he could.

All of them were highly vetted and sworn to secrecy.

It was nearly another week before he was discharged home, still feeling like crap. He tinkered with a new sterilizer in between naps on his workshop couch, and tried to eat well and sleep like a normal person. It worked for almost a month before the nightmares started again in full force, having temporarily been suppressed by the sleeping medication he'd been taking since the hospital admission.

By spring and the Stark Expo, he was almost back to 100%, which was good because he soon had to take down Whiplash, some Russian guy on a serious revenge trip. Something about their fathers apparently, and hell, Tony would probably agree with him on that, because Howard was a dick.
Also around that time the palladium from the reactor started seeping into his body, poisoning him.

Of course, having biweekly checkups with his doctor meant he couldn't hide it, and they helped him find a chelating agent to slow the build-up of toxins while he worked on finding a more sustainable solution. Between that and the Expo and Whiplash and Hammer, he had his hands full.

Around that time he handed the reins of the company over to Pepper, not telling her it was in case he died, and Nick Fury, leader of some organization with a stupid name, dropped off boxes of his dad's things. Tony hated the reminder, hated that this man wanted him to look through these relics of the past in order to move forward, hated being told what a good man his father was.

Of course dear old dad did end up helping save Tony's life, which he was grudgingly thankful for.

He created a new element, slammed that in his chest, and saved the world again.

(The Expo blew up a bit, but he had a lot of things on his plate, okay.)

As it happened, that week was busy for some others as well, with reports of a giant green creature terrorizing the Culver University campus, and some small town in New Mexico nearly being levelled by some fire breathing robot. To top it all off, that same giant green creature fought with another giant creature, flattening half of Harlem.

(Maybe Nick Fury was right. Maybe the world did need people to protect it from threats that were too great for any ordinary people to handle.)

That summer, Tony invented four new kinds of Intellicrops, including blueberries, in the hopes of lessening hunger among low income countries. He built three new Iron Man suits and a new suit for Rhodey. He and Pepper went on their first actual date, which was a success, but probably didn't need to be on a private island.

He also got pneumonia three times and was hospitalized four.

As far as summers go, it wasn't his best.

By the time fall rolled around, he was exhausted, both from the repeated bouts of illness and the burden of being Iron Man. Pepper urged him to quit risking his life in the suit, but Tony knew he couldn't. He promised that SI wouldn't produce any more weapons, but that wasn't all he'd promised. He also promised Yinsen that he wouldn't waste his life. He promised himself that he would do better, be better.
He hired more medical researchers to develop new antibiotics, since he was allergic to one class and already running out of options for some of the more resistant bugs. He spent hours each week doing yoga, strengthening his body, and simply breathing deeply.

It always hurt.

He got the flu shot that fall, a first time in many years for him, and insisted that everyone around him do the same. He looked into ways to boost his immune system and came up empty.

Early in November he developed a fever.

Most of November after that was lost to him, in between being unconscious, intubated and sedated, and out of it with fever.

He woke up with a central line in his chest, twenty less pounds of muscle, and a simultaneously angry and relieved PA.

The central line was replaced with a semi permanent port that no one else knew about, and Tony suffered through a single appointment with a dietitian before he decided that Jarvis would be the best option for helping him get back up to weight.

The way he was living wasn't sustainable, despite his best efforts. He was honestly honestly trying his best not to get sick, to take care of himself, but just kept failing. Short of living in a bubble, or the suit most of the time, there wasn't much more he could do.

So he carried on.

He was only hospitalized one more time that winter, for a case of bronchitis that they managed to catch early enough that it didn't develop into pneumonia.

Small mercies.

In April, the body of Captain America was found.
He was alive.

Tony's childhood had been split between revering and loathing the man, and now he was alive. 

He didn't know how to feel, so he didn't.

Not long after that, the world went to hell in a handbasket, some sort of alien hell bent on taking over the world levelling a SHIELD base in New Mexico, taking one of the agents and a scientist hostage with mind control, and basically fucking up Tony's vacation plans.

This led to him meeting Steve Rogers in the flesh, who didn't quite live up to the stories, Bruce Banner, the man behind the Hulk whose science Tony had admired for ages, and some giant blond guy who claimed to be a god.

Saving the world again, only on a scale that was much more evident.

The aforementioned brainwashed SHIELD agent tried to blow the helicarrier out of the sky, which was a mistake, since Romanoff kicked the crap out of him, but led to the alien guy being freed, who was apparently the supposed god's brother?

(“He's adopted,” Thor had said, like it was an excuse.)

Coulson died and Steve called Tony a soldier, which infuriated Tony more than it had any right to, except all he could see when he thought of soldiers was the humvee in the instant before it was blown up, the young man who wanted a picture with him, without a care in the world. He was a soldier.

Tony was not a soldier. (He had no right.)

The aliens fell into New York City after that, from a literal hole in the sky above Stark Tower. They were fascinating, seemingly half machine and half biological, and Tony would have loved to spend time dissecting them if they hadn't been trying to kill all of them. Bruce came back and fought on their side, Thor returned with his magic hammer, and even the guy who'd been fighting against them that afternoon was on their team.

They were holding their own, but only just, and needed a way to stop the aliens from coming. The scientist who'd also previously been brainwashed provided them with one, but only just too late, because there was a nuke coming in fast, set to destroy the entire island.

Just once, Tony would like saving the world to be easy.

He told them to wait and grabbed it with both hands, steering it into the hole in the sky that led to
the space beyond, space with stars that no human had ever seen before. His suit failed and lost his
link with Jarvis, no doubt far beyond the reaches of any human technology.

The nuke exploded into the alien ship, much brighter than all the stars behind it, and Tony
expected it would be the last thing he saw as he closed his eyes and lost consciousness.

And then he woke up. He was flat on his back, staring up at the sky, part of the outline of his
Tower visible, assorted people hovering over him including Captain America, looking worried.

“Please tell me nobody kissed me,” he breathed, half a joke and half serious. Especially Cap. Who
knew what weird century old germs the guy could have.

It turned out they'd won, even if it felt like they lost. Death counts were still ticking upwards, the
injured were spilling out of hospitals, and the city looked like a disaster movie.

Tony supposed it could have gone better, but it could have also gone worse.

Thor and Loki went home, taking the tessaract with them, the whole point of this goddamn fiasco.
Clint and Natasha returned to SHIELD. Steve took off on a motorcycle, to rediscover the country
or some shit, Tony didn't really know. And Bruce, he returned to the Tower with Tony, which
required some major rebuilding and renovations, but still had plenty of room for guests.

He planned to make it have room for a whole team.

It was Avengers Tower now, that’s what they were apparently, Avengers. Tony thought it could
have been a better name, since avenging usually happened after the fact, but hey, he wasn't going to
fight it.

He designed a floor for everyone, regal for Thor, sparse for Steve. He had no clue what Barton or
Romanoff liked, so he let Pepper do theirs. He probably should have let Pepper do the designing for all of them, but she did have a company to run. His company.

He added a gym and a sparring room and a range for Barton, who was scarily good with a bow, a gun, and anything that involved long range projectiles.

He added labs and workshops and after a moment's hesitation, a hospital wing, knowing with a sinking feeling in his chest that had nothing to do with the arc reactor, that he would no doubt need it.

Bruce seemed overwhelmed throughout the whole process, which was no doubt due to being persecuted and chased around the world for the past few years, never living in one place for very long, and being unable to build relationships with anyone.

Tony wanted to give him the world, but knew it would probably frighten him away, so settled for his own lab and a Hulk proof room he could go to play in.

Romanoff and Barton were the first to return, having been released from wherever SHIELD hid them away. Romanoff came with one bag, and Barton came with a bow on his back and a quiver. He seemed exhausted and withdrawn, and Tony knew from hacking into SHIELD databases that he'd spent most of the last month bouncing between high ranking SHIELD officials who wanted to know why he did it, and therapists who wanted to help him come to terms with having done it.

Tony knew a little something about guilt.

He showed them both to their own floors, Barton to the range, and Romanoff to the sparring room. Romanoff didn't say anything, and her face didn't give anything away either. Barton nodded his thanks, but didn't say anything.

Tony informed them of the sickness policy (aka do not go near him, do not pass go, do not collect $200) and the vaccination policy (all of them).

Natasha glanced down at his chest for a split second longer than necessary before nodding. Tony knew she knew about his crappy immune system, but didn't say anything, and that was just the way he liked it. Barton simply shrugged and said he didn't get sick.

“'I'll take care of it,” Natasha told Tony.

So there were four Avengers in his Tower, three other people who he'd saved the world with that one time. Three new sources of infection that could potentially lead to his death.

Maybe he was a little overdramatic, but only just.

Steve Rogers returned from his all American road trip a few weeks after Clint and Natasha moved
in. He seemed more comfortable in a way that he hadn't before he left. Tony wondered what he'd seen that could have helped a man adjust to an entirely different world, but didn't ask.

Tony did the same thing for him, gave him the tour, showed him his floor, and told him about the sickness and vaccination policy.

At the mention of vaccines, Steve's eyes widened.

“How many are there now?” he asked.

Tony scratched his beard. “Oh tons. I'm not sure how many you had, or even if you had any, but we're doing really well at preventing infectious disease. Polio is almost eradicated, we completely did away with smallpox, measles is mostly a thing of the past, same with rubella, all sorts of things.”

“Wow,” Steve said reverently.

Tony shrugged. “I don't even know if vaccines would work on you. You probably wouldn't need them, but hell, I don't know if you could be a carrier without getting infected...” he trailed off. Probably best not to start speculating, because then he'd want to test things, which would be risky. Probably for both of them.
They were a thing that resembled a team again. Thor was still gone in Asgard, but they couldn't really count on him anyway, since there was no way to reliably communicate if they did need him.

Steve started holding regular strategy meetings, sparring matches, and team building exercises. Tony's favourite was the paintball competition, which Barton won of course, but Tony came in a respectable fourth.

He beat Bruce. Just Bruce.

Their first battle since the alien invasion was kind of disappointing, if Tony was being honest. Doombots tried to take over an embassy, but failed miserably, since their AI was laughable at best. Tony had coded better things when he was in diapers. (Grade school for sure.)

No one was hurt, the only structural damage was when a Doombot took out a car, and everyone was in high spirits when they got back to the Tower. They ordered food and put on a movie, spending the rest of the night in front of the giant tv in the shared living space.

It was kind of nice.

Thor returned one day, appearing on top of the tower in a crack of lightning on an otherwise clear day. He seemed overjoyed to see them, trying to grab as many of them in his enormous arms as he could.

Tony showed him to his floor and gave him the standard speech, wondering if Thor could even get sick or if he knew what vaccinations were.

After a moment's hesitation, he left the vaccine part of the speech out, and just reminded Thor not to go near him if he was sick.

Thor took the whole thing in stride, complimenting Tony's decorating choices, and asking when dinner was.
Tony managed to ward off illness for the first few months of them all being a team. The only close call was a summer cold that everyone except Steve and Thor got, but thankfully didn't spread to Tony's lungs.

In the fall, Natasha brought a series of bombings to the team's attention, except there was no sign of an incendiary device. In fact, the whole thing seemed suspicious, and Tony wondered why it hadn't come to his attention before.

Natasha also revealed that she'd followed the trail back to a company named AIM, short for Advanced Idea Mechanics, which seemed silly and yet somewhat familiar to Tony.

It turned out that Tony had met the head of the company ages ago, when he was still making weapons and drinking himself to excess. (He only did one of those things anymore, and not even on a regular basis.) It also turned out that AIM was more of a front for a terrorist group that was experimenting on human subjects than it was anything else.

God, the guy even had kill right in his name.

Tony should have seen this coming.

(How did he not see this coming?)

But Natasha brought it to his attention, and Bruce helped him figure out what the explosions were, (people) and they all helped take down the company, marching Aldrich Killian out of there in heat resistant handcuffs, headed straight for one of the maximum security SHIELD prisons for people with special abilities.

It could have gone worse. (In another world, it might have.)

They toasted to their victory with mead that Thor brought from Asgard. It was somehow warm despite being chilled, and burned like fire going down.

The next morning he woke up to a text from Natasha that contained pictures of him and Clint, only
wearing boxers, being carried by Thor around the gym, one of them dangling off each arm.

Tony squinted at the picture, wondering what he was thinking, but decided it didn't really matter, and printed one off to frame.

He continued to attend appointments with his assortment of doctors, because he didn't want to be sick, that would be silly, and if he didn't go to regular appointments it would be more likely he'd get sick and end up being admitted to the hospital again, so he went.

He hated it, but he went.

He started to share more of his history with Bruce, things about the arc reactor, things that could save his life if it was damaged during a fight. His other teammates knew things too, but in less detail. They mostly knew that he needed it to survive, but that was it, end of story.

Natasha always knew more, of course. Always.

(Tony didn't even question it anymore, it was just a fact of life. The sky is blue, Loki is a dick, and Natasha knows more than anyone else.)

Three weeks before Christmas, Tony awoke with a fever. He swallowed two pills, drew blood from the port in his chest that only Jarvis knew about, and send it off to be cultured. He let his pulmonologist know he might be in for a visit, and headed downstairs to help decorate the tree.

Two hours later the tree was mostly decorated, although Clint and Thor were debating the merits of a star or an angel topping it off, and Tony received a delivery of IV antibiotics and a note from his pulmonologist, who definitely did not want to see Tony in the hospital so close to Christmas. He injected the first dose of azithromycin into his port and went to stave off the discussion, which was quickly turning physical.

(They ended up with a star on top of the tree, with an angel sitting on top of the star. Holidays were weird.)

By the evening, Tony's chest was aching more, although he couldn't tell if it was more than normal, or just more than it had been that morning. He also couldn't tell if it was due to some infection taking hold in his chest, or just the normal ache of having metal that poked into your skin and ribs every time you breathed.

There was a call to assemble in the middle of the night, somewhere around 3am, when the world
didn't seem real, more like some sort of half dream. It may also have been the fever talking, which Jarvis informed him was 101.7. Tony swallowed two more pills before stepping into the suit.

Some sort of portal opened up in Central Park, and emerging from it were *dinosaurs*. Actual freaking dinosaurs. Tony would have been thrilled if they hadn't been rampaging all over the zoo, scaring the alpacas and other assorted fluffy creatures. There was a brief discussion about containment versus... other less palpable options, and Tony was arguing for the former before some spiky dino with large teeth ate one of the goats.

He repulsored it before it even had a chance to digest.

It almost seemed fitting that the surrealism of the early hours combined with a ridiculous foe for them to vanquish. Tony wasn't even sure if the portal had been intended as something evil, or if it had just sort of happened. He wasn't surprised at much anymore.

Cap nearly decapitated one of the raptors with his shield when flying dinosaurs started to emerge from the portal, which Bruce was attempting to shut down, but wasn't having much luck with. Tony wanted to help him, but they needed air support, since Thor kept getting distracted by trying to ride the dinosaurs and communicate with them.

Beneath him, Thor was either hugging or strangling something that looked similar to a raptor, but with weirder spikes.

One of the flying ptero-things, which Tony would swear weren't technically dinosaurs, tried to take a bite out of him, but he dodged it, firing a repulsor at one of its wings and forcing it to land. Natasha threw herself at the dino in a move that was straight from an uneven bar routine in the olympics, and shocked it into submission. They did that with four more, and Tony was wondering when they would stop, or at least something new would start, since his head was hurting and he'd like to go home.

Thor had moved next to Bruce and they were discussing whether or not he could smash the portal. Bruce was against that, and Thor was all for it.

A whole pack of tiny dinos that only reached Thor's waist emerged from the portal and headed right for him, baring their terrifying teeth.

Thor pulled down a bolt of lightning that shocked the tiny dinos and managed to avoid Bruce. (Tony really needed to study Thor more, perhaps he could coax the guy into some experiments if he let him play with Hulk? He'd make a note of it for later.)

Something smashed into him from behind and sent him spiraling head over heels for a few rotations before he managed to level himself out. He swore.
“You okay Iron Man?” Steve asked over the coms.

“That sounds like a terrible idea,” Steve said, amusement in his voice.

“Did someone show you Jurassic Park? Why wasn't it me?” Tony complained.

“You were in Japan,” Clint chimed in.

An arrow flew over Tony's shoulder, and something behind him groaned, falling to the ground. Tony spun to see that he’d almost been eaten by some other different flying dino. He really wasn't on the ball today. He would blame the throbbing headache and the renewed pain in his chest that really wasn't liking all the flying around and lifting of his arms.

“Got it!” Bruce announced.

Tony looked up to find the portal shrinking before his eyes until it vanished, once again revealing the trees behind it instead of a foreign landscape.

“What are we supposed to do with the dinosaurs then?” Clint asked.

Bruce paused. “...I didn't think of that,” he admitted.

“My idea. We're doing my idea. I'll buy an island right now. Jarvis, we got an island?”

“You have many islands Sir. But right now of greater importance is your fever, which has not decreased despite the medication. Additionally, your oxygen saturation has decreased to 92%.”

“I'll handle it, just give me a few more minutes and I can go home and rest.”

“SHIELD actually has protocols for just this situation,” Natasha informed them. “Don't you read the manual?”

“Not all of it,” Clint said defensively at the same time that Tony said “What manual?”

She sighed at them. “They're on their way with the containment units.”

As she spoke, Tony could see the enormous trucks pulling into the park.

“What do they do with them?” Tony asked.

She shrugged. “Read the manual.”

It was relatively easy after that. Clint had sedative arrows that he used on all the dinos that were still stirring, and Thor helped the SHIELD agents move them into trucks, carefully separated by era and species.
By the time the last truck left, the sun was peering up from behind the buildings, and Tony was exhausted. He probably wouldn't be standing if it wasn't for the support of the suit.

“Let's go home J,” he sighed, wincing as it made the ache in his chest sharpen.

“Of course. Your fever is up to 102.9 degrees now, and your oxygen saturation is down to 89%. Additionally, your pulse and respirations are-”

“Stop,” Tony said. “I get it. We're going home and I'll do whatever I need to. Antibiotics, meds, the whole thing.”

“Sir, you really should consider going straight to the hospital. Scans indicate-”

“No!” Tony said sharply. “Home.”

Jarvis wasn't the boss of him, and Tony was tired of him acting that way.

Jarvis was silent during the short flight home, instead choosing to display Tony's vitals in red along the top of the HUD. The rest of the team wasn't far behind when he landed on the roof, everyone except for Thor in a quinjet that couldn't quite match his maneuverability. They'd be a few more minutes, and Tony wanted to get to his room before any of them could see how shitty he looked.

He took the elevator to his floor instead of taking the armor off immediately, and once he was in the safety of his own bedroom, gave the order for the armor to unfold from around him.

Except he was right about not being able to stand without it, and he sank to the ground, cracking his head off the edge of his bed as he did.

Chapter End Notes

dinos!
Chapter 3

Tony surfaced slowly. There were conversations happening around him, but didn't require his input, which was good because he had no clue what the hell was going on. There was a high pitched noise near his head, whistling maybe, but it wasn't that important and he managed to ignore it.

Something was taped to his chest. No, many things were taped to his chest. Heart monitor leads probably, something more heavy and uncomfortable that tugged somewhere deep inside him, and there was something suspiciously close to the port that no one else was supposed to know about.

Scratch that, it was attached to the port. Jarvis was a damned dirty traitor.

The pain in his chest was still present, as it always was, but at least the headache was better. It seemed to be localized to one spot, where he'd hit it-

Off his bed.

Tony opened his eyes and tried to sit up, but was forced down by the pain and a hand. Steve's hand. Steve's hand was pressing him back into his bed.

Tony swore.

Steve raised an eyebrow. “I hope that's in response to the pain and not me.”

“Not you,” Tony grumbled. His throat was dry. “This whole thing.” He gestured around the hospital room. Where was he? Metro General?

“This whole thing?” Steve repeated. “This whole thing. Do you even know what this whole thing is Tony?”

Tony grumbled as Steve pulled out his phone and texted much faster than anyone who was that old should have been able to.

“This whole thing,” Steve said again, shaking his head.

The door opened and all of the other Avengers spilled in. Bruce was holding a paper copy of Tony's chart, one that was likely more than what normal doctors got, but still not the full story, because it was still less than an inch thick.


Clint shook his head. Angry, he mouthed for Tony's sake, like he couldn't figure that out.

“What you got there Bruce?” Tony asked, attempting to smile, but it felt more like a grimace.
“Your chart. Probably not the full version, I'm aware, but there's still lots of interesting reading.”

Tony rolled his eyes.

“Want to hear the latest additions to it?” Bruce continued without pausing or even looking at Tony. “Three broken ribs. Pneumothorax that required the insertion of a chest tube.”

Tony's side ached when it was mentioned, and he suddenly felt squeamish realizing there was something inside of him. (It was a bit hypocritical, since the arc reactor was always inside him, but he supposed he felt the same way at first, and had only grown used to it as time passed.)

“Plus, pneumonia that much have started developing before you even went out there, since I found labs already in the chart that you sent in the day before.”

Tony raised an eyebrow.

“C. pneumoniae, in case you were wondering.”

Tony nodded. He'd had that one before.

“And a concussion that you got when you collapsed like an idiot because you were hypoxic and no doubt in pain.”

That explained the pain in his head.

He nodded. “That's not that bad though?”

They all scowled at him, including Thor, who Tony didn't think was capable of making such an expression.

“Why didn't you tell us when you got hurt?” Clint asked.

“I didn't know,” Tony said honestly.

“And why didn't you let us know you were sick?” Natasha chimed in.

Tony shrugged. “I was hoping I could catch it before it got to that point. Guess not.”

“Let me get this straight,” Bruce said, frowning. “You nearly died because you didn't feel the three broken ribs you had, so you kept fighting until one of them punctured your lung and you almost suffocated. Is that correct?”

Tony winced. “I guess.”

Bruce frowned, but continued. “I guess the only question is, why didn't you say anything when you started to feel bad? You must have experienced pain and shortness of breath. We know that you're all about pushing through the pain and not showing any weakness, but Tony you could have died. That's not okay. You need to tell us these things.”

“It always hurts Bruce. This wasn't any worse than normal.”

“A broken rib. Wasn't any worse than normal?” he said it slowly, like he wasn't understanding the words coming out of his own mouth.
Tony shook his head.

“The arc reactor hurts Bruce,” he said. “It hurts every single day. So maybe it hurt a little more today. I just thought it was a bad day. I certainly didn't think it was broken ribs.”

“Why didn't you tell us about the pain?”

“So you could do what? Look at me sadly? Ask me if you could do anything for me? It's not like I broke my arm and it's going to get better. I live with this thing in my chest. It's keeping me alive. It's not going to get better. It hurts every single day, and yeah some days are worse than others, and some days are almost alright, but it's never going to stop hurting. And that's not even the worst part. I got used to the pain, but then guess what else happened?”

“The pneumonia,” Bruce realized.

Tony nodded. “I've had pneumonia that led to me being hospitalized at least ten times since Afghanistan.”

Bruce's eyes widened. “Ten? None of those are in your chart.”

“Like you said, not the full chart.”

Behind Bruce, the other Avengers stood. Tony couldn't make eye contact with any of them. Thor was confused, no doubt, somewhat at a loss for human bodies and their relative fragility. Steve was probably ready to kick him off the team for being a liability. Barton was no doubt reassessing Tony and everything about him.

Natasha was the worst of all. Tony could feel her looking at him, with a look that was halfway between anger and pity.

He never wanted pity, ever.

“Anyway, in sum, not willfully trying to hide injuries, just largely unaware of them. End of discussion,” Tony announced.

“You realize that really doesn't make the situation better, right?” Clint pointed out.

Tony scowled and closed his eyes. “I'm sleeping.”

Bruce sighed, but gestured to them, and they all shuffled out, Clint whispering something, probably to Natasha, and Thor trying and failing to keep his voice low enough that Tony couldn't hear him ask about pneumonia.

“Why didn't you tell me?”

Tony cracked one eye open. “Tell you what Bruce?”

He shrugged. “About the pneumonia, the frequency of infections, the pain, the portacath in your chest. I can keep going if you're still not sure.”
Tony closed his eyes and took a measured breath before opening them to stare at Bruce. “Because everyone thinking I'm stupid and reckless is better than the alternative.”

“What's that?”

Tony closed his eyes so he wouldn't have to see Bruce's face when he responded. “That my body's too fucked up to realize when it's more broken than usual.”

He willed himself to fall asleep, or Bruce to disappear, or something so he wouldn't have to continue with this conversation, and maybe the universe smiled upon him for once in his goddamn life, because Bruce didn't say anything to that, just sighed and patted Tony on the shoulder, telling him to get some rest before leaving him alone in the room.

Hell, that might have been worse.

Tony was in the hospital for another two days before the chest tube came out, and by then the chest infection was mostly under wraps, to the point where his doctors felt comfortable discharging him. The Avengers were back, usually in pairs, Clint and Nat together, Steve and Thor together. Bruce was the only one who came on his own, and was also the only one who Tony didn't pretend to sleep during his visit.

“Every time Steve and Thor get back, the look on their faces...” Bruce shook his head. “Makes you wanna cry. And you know Natasha can tell you're not sleeping, Clint too probably.”

Tony ignored him until Bruce switched the subject to how he got his hands on a SHIELD manual and discovered there was indeed a protocol for dealing with a dinosaur invasion. There were also apparently protocols for when each of them went rogue, which were not public, for obvious reasons.

Before Bruce left that afternoon, he paused in the doorway. “Maybe just... talk to them?” he suggested.

Tony considered it, he really did, but when Natasha showed up later that night, he couldn't bring himself to open his eyes.

Then he was discharged, and it should have been harder to avoid them when Tony lived in the same building, but Tony had and could live in his workshop for days at a time. He took his antibiotics, he ate the food that Jarvis ordered or had prepared for him, and he slept on the couch. His broken ribs ached, usually when he thought about going upstairs to watch a movie or join a team dinner, and that ache was enough to remind him that intentionally closing himself off was
better than the alternative.

Of course he should have anticipated that the team wouldn't give up that easy.

While attempting to modify the suit to better detect fractures (which was harder than it should have been, which he was blaming on the painkillers), he looked up and Steve was standing in the doorway to his workshop.

“Intruder?” Tony said to Jarvis.

“He used his override code Sir,” Jarvis explained.

Tony kept forgetting about those. Maybe he should get rid of them? Of course, then when he actually got hurt, he'd be screwed, so maybe not.

“Steve,” Tony greeted, not looking at him, instead turning his attention back to his notes on suit modifications, which really weren't legible or coherent. Maybe he did need a break.

“You've been ignoring us,” Steve said bluntly.

Okay, so he wasn't even going to sugarcoat that.

“I'm a busy guy,” Tony told him, gesturing to his workshop, which was in a state of perpetual barely controlled chaos. He knew Steve wouldn't believe it for a second, but it might have distracted him from whatever he originally wanted to talk about.

“I talked to Bruce,” Steve continued, apparently not deterred for a second. “About the thing in your chest. He also told me that pneumonia isn't a death sentence anymore, at least not for most people.” The implied you're not most people was left unsaid, which Tony was grateful for.

“But also that having pneumonia so frequently is not normal.” He paused. “I know I don't completely understand everything about this time, and maybe I never will. But I know I do care about you, and not just as a member of our team, but as a friend as well. So if there's anything I can do, anything any of us can do, let us know.”

Tony looked up at Steve for the first time in the conversation. Steve was clearly sincere, he almost always was, with an earnest expression that made Tony sick.

“Bruce show you the x-rays?” Tony asked. “The surgical notes? The discharge summaries? Did he show you the reports that said my lungs keep getting scarred from the repeated infections? I'm not sure what you think you can do for me, but I am not going to get better. There is no better for me, Steve. I will stay the same, or I will get worse, and eventually I will die. If I'm lucky, it'll be in a fight rather than choking to death with lungs that no longer work. So there is nothing you can do for me, nothing the team can do for me.”

He didn't look to see the no doubt shocked expression on Steve's face. Eventually the man turned and left, leaving Tony alone with the nonsensical notes about x-rays and ribs that throbbed at him as if to remind him that he was still broken.
Steve didn't try to come to the workshop again, and after a week of sulking (what Jarvis called it, not Tony, Tony would never *sulk*) he resumed normal team activities, eating meals, poking fun at Barton, watching training exercises, and fighting over which movies Steve needed to see.

Steve hadn't tried to talk to him about his inevitable death, and hell, wasn't death inevitable for all of them? Except maybe Thor. Tony wasn't even sure how old the guy was.

To Steve's credit, he didn't even treat Tony any differently, except less trying to get him to participate in hand to hand combat training, which might have had more to do with his still broken ribs than anything else.

Still, he went to the gym when the other Avengers were there and watched Steve and Thor spar, Clint attempt to teach Bruce some self defense in case it carried over to Hulk, and Natasha do some sort of dancing that might have been ballet but he was too terrified to ask. He had a healthy admiration for women who could kill people with their thighs, and also a respectable amount of fear.

Bruce seemed preoccupied with a new project, one he wouldn't share the details about with Tony. But then Clint asked him about tweaking his tranquilizer arrows, and Tony forgot he ever wanted to know what Bruce was up to. After Clint, it was Natasha who wanted the voltage on her widow bites changed, then Steve was wondering about a com for Bruce that wouldn't fall out when he transformed. By the time he knew it, his ribs were healed, he was cleared for active duty again, and Bruce seemed to have finished whatever it was he was working on. He still wasn't spilling though, and despite Tony's best efforts to figure out what he was doing, the only thing he could determine was that Bruce was using a lot of plants to test it. Super fertilizer? Sentient plants? Honestly, it could have been anything.

Around the time the ground thawed, they had to deal with mud monsters that were making a mess of Harlem. They managed to get out of that with no injuries, just a hell of a lot of mud *everywhere*, including in the joints of the suit, making it difficult for Tony to maneuver. Still, he was the only one who wasn't in desperate need of a shower afterwards, with Bruce transforming back to find himself almost buried under the mud that had been encasing Hulk.

Tony's pride in only being sick once that winter was ruined in the spring, when it rained for a week straight, the pain in his chest was impossible to ignore, and every single Avenger was sick with a cold. He spent the next two weeks in the med wing in the Tower, with something that wasn't quite pneumonia, but could easily have been if he let it get a hold for even a second.
The Avengers came to visit Tony, but only after they were well, and even then they wore masks. Tony was about as amused by it as he was appreciative.

He recovered from that, but not entirely, since a week later he wound up in the hospital again with a fever of 102.9 and an oxygen saturation of 87%. He would have cursed his shitty immune system if he'd had the breath to do so, but as it was, he barely managed to keep from passing out.

The infection responded well to antibiotics, and every time Tony woke up, there was someone in his room with him. He was discharged after only a week, and when he got home, Bruce was waiting for him in Tony's workshop.

Bruce stood in front of one of the benches and fiddled with the hem of his shirt, Tony sitting on a stool across from him.

“You finally going to tell me what you've been up to?” Tony asked.

“It's called Extremis,” Bruce explained. “It's what AIM was working on.”

What Tony knew of that was that it almost always resulted in explosions. He really didn't want to explode.

“It was flawed,” Bruce continued. “Unstable. But it really was brilliant.”

Tony raised an eyebrow, waiting for Bruce to get to the point.

“I've been playing with it for months now, trying to get it to stop doing the, well, get it to stop exploding.”

“I haven't heard any explosions. Have you been exploding my Tower?”

Bruce shook his head. “I think I've stabilized it. I want you to check it.”

Tony frowned. So it could be used for what? He thought Bruce was over the stage of trying to 'cure' himself. “Why?”

“I've been reviewing AIM's research, and doing some of my own, and it seems that it essentially allows for hacking into a body's operating system through the use of nanotechnology. The body doesn't always accept it, but if it does, the person acquires regenerative healing abilities, among other things.”

“To what extent?” Tony asked. “Is there a limit to what it can do?”

Bruce shifted. “So far, no, I don't think there's a limit. AIM likely wasn't even using it to its full potential, too focused on creating super soldiers to see what it could really do.”

Tony's chest tightened in a way that had nothing to do with broken bones, arrhythmia, or chest infections. It was hope.

“You're saying that if we inject me with Extremis, it could heal my damaged lungs, regrow my sternum, remove the shrapnel, completely eliminate the need for the arc reactor?”
Bruce hesitated, but nodded. “We just have to make sure it’s safe. Like I said, I think I’ve stabilized it, but another set of eyes, especially ones who are better at coding, would be great.”

Tony didn’t want to get his hopes up, and yet there they were, far above his head.

Extremis was beautiful, in the same way Jarvis was, intricate and complicated and yet somehow elegant at the same time. Tony compared the base formula that Killian had been using on his exploding soldiers, which was the base formula Bruce had started with, to the final one that Bruce was presenting to Tony. The changes were tiny, and yet crucial for the stabilization of the formula.

The plants made sense when Bruce showed Tony his lab. Bruce had been using them as test subjects, which was much more responsible than anything AIM had been doing. Some of them were still alive, a bit singed at the end of the leaves, but still alive. The only evidence of earlier test subjects was scorch marks that rose a couple of feet up the walls. The latest plants were healthy, no signs of scorching anywhere, and completely able to regrow leaves almost immediately when Bruce damaged them or cut one off.

Tony spent the next few weeks going over the code for the improved version of Extremis with a fine toothed comb. The pace was achingly slow, but it was all he could manage. Bruce had done a great job, and there were only a few things he made slight tweaks to. With the help of Jarvis, who had apparently been helping Bruce the whole time, traitorous AI, Tony determined that it likely wouldn’t kill him, which in terms of probability was light years beyond the initial installation of the arc reactor, which Tony had at about a 50% success rate considering he was in a goddamn cave at the time.

They moved to animal trials after that, small white mice that they carefully amputated parts of, ranging from pieces of their tails to limbs.

None of the mice survived the first trial, and Tony spent the rest of that night throwing up. It turned out not to be solely from the stress, but rather him and Barton eating half of a batch of raw cookie dough, but Tony still felt awful about the whole thing.

After Jarvis reminded them that most mice for laboratory experiments had near identical genetic codes, to ensure consistency, they started the entire process over, this time using genetically
diverse mice.

Half of them survived, regrowing tiny limbs and tails, and Bruce and Tony celebrated by drinking half of the bottle of one of his finest scotches. Neither of them remember much about the rest of the night after Jarvis convinced them not to fly to Hawaii.

After they tweaked the formula to allow almost 80% of the mice to live, the next step was ensuring the formula would work with Tony's genetic code, which was the whole point of this thing. If his body didn't accept it, he'd end up like the first batch of mice, just on a larger scale.

They couldn't just take his cells and tissues to test it on, since Extremis required a distribution system, and since about the eighteenth generation, a nervous system and brain. Harnessing the brain allowed for the effects to be more tailored, rather than just letting Extremis go to work and do whatever it thought it was supposed to. Now there was a psychological component that would allow Tony to think himself better, repairing the damage that had been done to his body over so many years and infections.

After multiple failures, they finally managed to create a mouse that was basically the mouse version of Tony, with as similar a genetic code that a mouse could have. Tony half expected the mice to grow tiny goatees and have cravings for alcohol, but genetic predisposition was only half the battle.

This entire process was interspersed with random attacks on the city, a handful of alien invasions, and on one memorable occasion, an invasion of sentient fish. Tony still wasn't sure he didn't dream that.

The other Avengers were as supportive of this process as they could be, Steve made sure they ate on a regular basis, Natasha showed up to drag them to the gym for team training and sparring, Thor sat with them and debated the limitations of human medicine, and Clint made sure they came to movie nights, even allowing them to choose the movie on occasion.

It was nice, and for a while, Tony forgot why he hadn't wanted them to know.

The irrational fears kicked in anytime he was feeling the slightest bit insecure, nights when he couldn't sleep, days when he couldn't focus on making or fixing anything, missions he had to sit out because he was still recovering. He wondered what it would take for them to realize he was too much of a burden, if it would be the next time he spiked a fever, the next time he so much as coughed in front of them. What the final straw would be for them to thank him for his service and
politely end their working relationship, which was the only relationship he had with them. He wasn't sure he could survive that.

He confessed this once to Bruce, exhausted and half delusional after a day where too many mice with his genetic code died. Bruce hadn't said anything at first, and Tony didn't blame him. He just tucked Tony into bed and said they would talk about it in the morning.

By morning, Tony only remembered a vague sense of unease over something he'd said the night before, which was solidified when he walked into the kitchen and found the rest of the team there.

Over waffles, they carefully laid out every reason he was a worthwhile member of the team, no matter how he was able to contribute, and how that would never change, even if he had to retire as Iron Man, as an Avenger.

Tony definitely didn't cry. He didn't.

The proportion of Tony mice they kept alive was increasing on a weekly basis by the fall, and Tony was optimistic that they'd perfect the formula before another holiday season passed.

He didn't even notice the fever that time, so the first hint that he was sick was when he woke up gasping for breath with shitty lungs that were full of fluid.

He lost a bit of time after that.

Tony woke up to find worlds colliding, literally, aliens invading London, and Thor off on another adventure he didn't invite any of the other Avengers to. Rude.

He'd only lost two days that time, which meant he hadn't needed to be intubated, and was thus a relatively minor infection compared to some of the others.

He kept telling himself that every time his breath caught in his chest, every time the reactor shifted against inflamed tissue when he coughed.
Thor solved the problem, of course, even though some sort of alien ship made a bit of a mess in Greenwich. He then went off to Asgard, leaving SHIELD to clean up the mess that possibly contained things that could be used as weapons, but sure, Tony understood. Things to do, places to be. And hell, the guy was a prince, or something, Tony wasn't exactly sure of the details of Thor's lineage, but he knew he was a big deal in Asgard, and not just because of his hair.

November blended into December and Tony still hadn't managed to shake the effects of the last infection. He dozed off in the lab while Bruce ran simulations with every variable he could think of to see if Extremis would cure Tony or kill him.

He missed Christmas completely that year, woke up sometime before New Year's with a tube still in his throat and the entire team at his bed. Bruce explained it to him, in small words that made it through the cloud of sedation. The antibiotics weren't working. The infection wasn't getting better, but it wasn't getting worse either. Bruce was worried that if they didn't do something soon, his body would lose the battle. He wanted to try Extremis.

Tony blinked his understanding and drifted off.

He woke up again and the tube was gone. He wasn't in the hospital anymore, but in the med wing of the Tower. His chest still hurt, and Bruce explained the infection was still the same.

Extremis sat across the room on a table. When they'd first started producing it, Tony half expected it to be red or glowing or something that indicated how explosive it used to be. But it was just a pale yellow liquid, no more viscous than any other vaccine.

When he drifted back, Bruce was across the room, drawing the fluid into a syringe. Tony coughed and his chest rattled and the world faded at the edges a bit, and by the time he caught his breath, Bruce was back by his side. He laid a hand reassuringly on Tony's arm.

"This is going to hurt," Bruce warned him, syringe in hand.

_It always hurts_, Tony didn't tell him, and instead just nodded for him to go ahead.

He was ready.
the medicine is as accurate as I can make it when we're dealing with arc reactor like things, but as for the other science? shrug.

Works inspired by this one: [Extremis [Fanart] by red_b_rackham](#)

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