

# **X claw Damage Reduction / Group Heal build guide**

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**IF YOU ARE USING F.LUX OR ANOTHER SIMILAR “DIM YOUR SCREEN AT NIGHT” PROGRAM (INCLUDING THE WINDOWS ONE) IT COULD BE HURTING YOUR FPH!!! TURN IT OFF! (Made a ~50fph difference for me)**

**Also note that Discord Overlays may slow the game down, turn them off for Soda Dungeon 2. I've also found that, with an older computer I get the best fph when I decrease the screen resolution to as low as possible. Sometimes even a fresh reboot can make a difference.**

## **1) Foreword and Terminology:**

I'll be assuming that you're familiar with most Soda Dungeon 2 terminology by now, but just to refresh: DR = Damage Reduction, BP = Back Protector, fph = floors per hour X claw = X can kill enemies in 1 shot with Phantasmal Claw. Please note that this is advice for the late late game, for floor 500k plus. If you aren't able to one-shot enemies with Phantasmal Claw on X or you don't know what that means, this isn't the guide for you!

## **2) What's up with this build?**

**Patch 1.0.5 buffed Group Heal, which can now heal 6 characters for 50% each. That's a total of 300% when compared to First Aid, which is only 100% at best.** The typical evade centered X-claw build is based on avoiding taking any damage

at all, but when damage is taken, they need to be healed or they'll risk dying to the next attack. (At very very high levels this may not be the case, but we're talking about into the millions of floors).

A particular user was previously using very high damage reduction as part of a specialty no-X build that necessitated high survivability and, with the changes to Group Heal realized it significantly helped their fph. But, it was generally thought this would only work in non-X comps because X is unable to get high damage reduction due to using only accessories.

**With this guide, I've figured out a way to make a DR comp that takes advantage of the benefits of Group Heal's superior healing ability while still using X claw**, giving him First Aid as he needs it. In a sense, 5% of the team benefits from Group Heal and X goes about life normally thanks to a few script triggers we can use.

In short, the point is that by running a lot of DR, you can take many hits before needing to heal, and when you do, you heal everyone for more total in 1 turn than you can normally. **I have been getting around 1800 fph with this build and was getting around 1750 fph with the more typical dodge setup before this.**

### **3) How to do it:**

Because there is no way for me to know what your relic levels are at and people are going to be coming into this build from various places I'm going to give you the safest most general script possible. If you're further ahead then you can probably change the parameters a little to your liking, but I'm going with what should work for most people out of the box.

#### **A) Team composition.**

For this, we're going to, regardless of what we were doing before (I was physical and I still did this) **use NDDDTX for our comp**. It's important that we use this specific comp for maximum benefit. We need N, T and X for obvious reasons, but why Dark Mages?

### Three reasons:

- 1) **They have 7% class damage reduction.** This is 5% higher than Nurse or Thief. When you're getting very high numbers of damage reduction a small increase is huge. (For instance from 80% to 90% doubles your effective HP).
- 2) **They get an extra accessory slot.** This can be used for Back Protector, Copper Bracelet, etc.
- 3) **It's way easier to kill stuff with Noxin than Claw** and we're not going to be needing backup dps often because we don't need to heal often. If you're like me and you've never used Dark Mages until now you don't have the essence to level up their relic to the same as your X. But, for a fraction of the cost (lowest levels are cheapest remember!) you can get Noxin. The perk to this is that you also get an extra accessory slot since you don't need to equip a claw. Later on we'll probably move to claw, but for now Noxin is our backup dps.

### B) Items

Dark Lord uses Back Protector, Heal Stone (so he can skip his turn by healing to let Nurse heal) and Phantasmal Claw. Everyone who isn't Dark Lord uses Back Protector, Skull Blade, Ossein Armor and Divine Shield. For their extra accessory slot, Dark Mages wear Copper Bracelets to reduce how often they take poison or burn damage. (It does a % of HP and isn't reduced by DR).

**Under no circumstances should you use Silver Necklaces. EVER.** This sounds strange because they give DR, but the reason that we don't want to use them is that we recently discovered that, in the game's code (and through testing) that more item drops actually lower fph. And, upon testing for myself I noticed a significant (over 50) difference in fph.

### C) Scripts

There is a little nuance with this, but first I'll give you the scripts that should work most generally. Please note these won't work well if you have a really big snowball on

X's HP, but if you're about 20k-30k floors ahead like I am they should work well. I'll explain a bit about how they work below this section in the notes.

### **Dark Lord:**

Enemy Rank > Normal Default Attack (This is if your backup dps can't non-crit one-shot minibosses and bosses)

Self Health < 100% Heal Stone

Ally Health < \*\*\*50%\*\*\* Heal Stone (**SEE NOTE 1**)

Enemy > 1 Phantasmal Claw

Enemy Not Ore Default Attack

### **Nurse:**

Enemy Rank > Normal Default Attack (*This is only necessary if you can't non-crit 1-shot minibosses or bosses, delete it once X can*).

Ally Health < \*\*\*30%\*\*\* First Aid (**SEE NOTE 2**)

Ally Health < 100% Group Heal

Self Health < 50% Group Heal

**Self health < 50% Group Heal** (This should always match X's Ally Health Heal Stone %) **Please note that I forgot the above line if you were reading this guide a little while ago. Make sure you have it.**

Enemy = Not Ore Default Attack

### **Dark Mage:**

Enemy > 1 Noxin (*You can add a line above this "Enemy >1 Phantasmal Claw" once you have enough damage to use a Phantasmal Claw on your backup dps. But keep this line for the 2nd and 3rd DMs just in case something goes wrong*).

Enemy Not Ore Default Attack

### **Thief:**

Enemy > 1 Dark Flame (Note: It's extremely unlikely that Thief will get a turn, ever).

Enemy Not Ore Default Attack

**What do these scripts do exactly?** The general idea with these scripts is that X acts as the arbiter for who gets healing and when.

- 1) Whenever X is hit he should always go down to below 30% of his health, even from a normal attack. This means that he'll pass his turn from Self Health < 100% and Nurse will know that he needs a full heal from First Aid from Ally Health < 30%. If he takes a tick of Burn or Poison damage he'll still pass his turn with Self health < 100% and Nurse will heal him (and everyone else) with Ally Health < 100% Group Heal. (Both faster animation and heals everyone else while you're at it)
- 2) With a ton of DR and relic levels similar to mine, your party members will still be able to take a poison attack at 50% health and live, but getting below 50% health becomes dangerous. So, when X sees Ally Health < 50% he will pass his turn. Nurse will, seeing that no Ally is below 30% health, but Ally < 100% health, use group heal, healing everyone.
- 3) Note that my Nurse has Enemy > Normal Default Attack as her first line. This is so that she will finish off minibosses or bosses that X can't kill. Without this line she'll just heal for no reason if she gets a turn where it's just because a Boss or Miniboss needs to be killed. If you can kill bosses and minibosses in 1 attack from X without a crit you don't need this line.

**For the notes below, I will explain how I got the 30% and 50% numbers and how yours may vary slightly, and how to check them. If you're not a custom guy, try out my scripts first and see if they work. Main thing that'll screw them up is if your X has way more health than he needs or if your other guys have very low levels of health.**

**Update: For the following section, you can use [this calculator](#) to calculate % hp damage taken from various attacks, etc. Thanks to Dann for this one.**

**NOTE 1)** This number (50%) should work if your non-X characters can survive an attack + tick of poison at 50% health. If you want to confirm whether this is okay or you're having trouble with the script, do this:

Check how much damage your lowest relic level guy takes from an attack + a tick from poison at your current floor level and see what % of their total HP this is. If an attack + poison tick does 50% of their health damage they need to be healed when they're under 50% so that's what goes into the script. (Make sure if it's 52% that you set the script to 55% so they heal sooner, not later).

(You can check the Discord pins for various damage calculators etc.)

**NOTE 2)** This number (30%) should work if you keep your health high enough on X for 20-30k floors. Less is okay too. If your health buffer is way higher, use the calculator I linked to above to check how much damage he takes and set the heal amount accordingly.

**Important note:** If your X heal trigger and your group heal trigger are the same, Nurse will just always use First Aid. I suggest at least 20% difference between the group heal trigger (say 50%) and X's First Aid heal trigger (say 30%).

## D) Relic levels

This is the trickiest thing to give advice on because we all have different relic levels, but I can give you some guidelines:

- 1) You want Health Relic + X relic to be able to keep X alive through a Dark Slash for about 20k-30k floors above where you are. More can mean you have to change the script around as in note 2) above.
- 2) You want to have enough relic levels in DM that they can one-hit Noxin enemies. If you can already do 1 claw with X this won't be very hard, I needed only 7000 levels at floor 835k, and remember, the first 7000 levels are cheap. Note: If you're like me and don't have DM relic yet, don't sweat it, just go on a run until you get them and it will just take 2 Noxins instead of 1 for backup dps. Not the end of the world.
- 3) If your X can't one-shot Bosses with a non-crit, make sure that your Nurse's non-crit does enough damage to finish them off in one hit. I was able to do this with only about 4000 levels in Nurse Relic. Also note that Nurse needs a little more HP than DM because she gets less DR and won't be defending.

Here's what the balance of my relics looks like: (Note: For me, X can one-shot minibosses but not bosses and DM needs to use Noxin and can't claw yet) I'm getting around 1800fph with these relic levels.

## Updates (Floor 836k):

Attack	8,900
Health	11,200
Gold	18,500
Physical Boost	7,900
Magic Boost	12,800
X Relic	12,000
Nurse	5,300
Thief	6,950 (This is overleveled, 4000 or even less is enough)
Dark Mage	7,000

**You do not need to have your relics this high or be at my floor to make this work.**

The general ratio of relics you see here will work for whether you're on a higher or lower floor than me. The idea is you want X to one-shot regular enemies with claw, DM to one-shot regular enemies with Noxin and Nurse to be able to clean up Minibosses or Bosses that X doesn't crit with default attacks. If you can do those things you're good to go.

### **Floor ~900k**

Mostly increasing gold relic but finally spend enough essence to make X one-shot bosses consistently. Saw an increase to ~1815fph from doing this.

### **Floor ~950k**

Continuing to pump gold relic but took a small break to upgrade DM relic to 12,000 so they can one-shot with claw once I could do it after a half day run. You need to add the line "Enemy Team > 1 Phantasmal Claw" to their script above the line that tells them to Noxin.

Only give your first DM a claw accessory but save that as your default equipment. Give the other two (when you remember, you have to do this manually) Copper Bracelets instead of claws. They will very very very rarely get a turn and if they ever do, they can Noxin and it will be almost no time difference.

Giving them Copper Bracelets is beneficial because it makes them less likely to take a large amount of % health damage from burns, poison, etc. If all 3 have claws on a run it's not the end of the world. **I've been getting around 1820fph** over very long (8 hours, half day) runs with this build. Be careful not to overlevel X's HP to the point that he

takes less than 70% of his health damage or it will mess up your scripts. You'll need to change them around if that happens.

## **Floor 1.2M**

Fph upgrades from here are going to be relatively minimal. Most even very high level players are reporting capping out around 1880fph whether dodge, no X DR or with X DR. Knowing this I've continued to pump my gold relic consistently while keeping a 30-40k floor buffer. (Personal preference here). My general train of thought is that if we look at floors gained per day (~43,680) as a percentage increase to total floors (1,200,000, so a 3.64% increase) there is a point at which pumping gold relic should match this. That's the point where continuing to pump into gold relic is really having diminishing returns, because our floor determines our "base level" of income, it means our ability to increase off the base is less than the base is naturally increasing on its own. Aka, we're getting too ahead of ourselves, so might as well invest in some small fph gains.

## **Floor 1.59M - X Group Heal? Sometimes. Real changes!**

I've been getting around **1840fph** with these changes.

**For the following section, you can use [this calculator](#) to calculate % hp damage taken from various attacks. Thanks to Dann for this one.**

Trying out the next major change here, giving X enough HP that he'll take ~71% damage from Dark Slash. This means that he'll be able to take a dark slash, get group healed, and he'll be at a higher HP than he can die from Dark Slash. ( $100\% - 71\% = 29\%$ ,  $29\% + 50\% = 79\%$ ) There are three benefits to this: 1) Group heal's faster than first aid, so you save a little time there. 2) X won't need to pass his turn when he takes a tick or two of poison or burn because he is safe about 75% health. This will save some heals. 3) Now, half of the time, when X gets healed, it will also heal everyone else. This reduces the number of times that other characters will need to be healed, since they will now sometimes get healed at the same time as X.

We'll set up his scripts so that he won't pass his turn when he's about 75% health anymore, and so that Nurse will only heal him if he's below 25% health. (For instance, if

he's already at 79% health and takes a dark slash, he'll go down to 8%, then Nurse will use First Aid to bring him up to 100% because 58% via Group Heal would not be safe).

As I've been mostly pumping my Gold Relic, I was easily able to bring my X's health up to so that Dark Slash does less than 75% after a day's run. (It does 71% for me but you could have a bit of a lower margin). Note that you could make this change sooner, but I chose to delay it because my expectation for fph increase is fairly low.

### **Relics:**

Attack	14,600
Health	32,000
Gold	70,360
Physical Boost	16,700
Magic Boost	19,400
X Relic	23,096
Nurse	7,000
Thief	7,000
Dark Mage	12,000

Note: With these relic levels, X will be massively overkilling all enemies because we just pumped his relic for the purpose of raising his HP a bunch. Going forward you're going to have to pay attention to your DM backup dps more than anything - make sure their claw is still keeping up. (Well before this point you should be using claw over Nox)

### **Scripts:**

#### **Dark Lord:**

- Enemy Rank > Normal Default Attack (This can be removed/changed if your backup dps can one-shot Minibosses/Bosses. It's a pretty small difference though).
- **Self Health < 75% Heal Stone**
- Ally Health < 50% Heal Stone (**You may be able to lower this a little now, but if it gets too low you'll cause Nurse to use First Aid instead of Group Heal**).
- Enemy > 1 Phantasmal Claw
- Enemy Not Ore Default Attack

#### **Nurse:**

- Ally Health < **25%** First Aid (**Note: Unless we get an item that gives burn immunity this can never be lower than 20% because the 3rd tick of burn does that much**). **Also note that this is for healing X now that he's only in danger from only getting a group heal if below 25% health. It's a bit of a different reason than before (before you were measuring when he took any attack and always using First Aid on him).**
- Ally Health < 100% Group Heal
- Self Health < 50% Group Heal
- Enemy isn't Ore Default Attack

## **Floor 2.4M - DS does < 50% to X, no more First Aid!**

I've been getting around **1854fph** with these changes, so about an increase of 14fph. With the upper bound of this build (without fancy fps stuff) currently being around 1880, that's not bad at all.

Here are my relic levels. Please note that I'm a bit overleveled beyond the minimum you need:

### **Relics:**

Attack	14,600
Health	74,000
Gold	134,377
Physical Boost	17,000
Magic Boost	24,500
X Relic	55,000
Nurse	20,000
Thief	13,000
Dark Mage	18,000

Note: Because you're leveling up X Relic mostly with the goal of raising his HP, he will be massively overleveled for damage from now on. Because of this, you now need to only pay attention to Dark Mage damage to make sure it's still high enough to one-shot claw enemies. (You can do this by only overleveling Dark Mage relic if you want to, since that also gives you more HP which always helps the DR build if even just a bit).

For this section, continue to use the calculator I linked above in the last section - we need to check what % damage our characters take from **Dark Slash**. We need X **taking less than 50% damage** and ideally our next weakest member (Nurse) **taking less than 20% damage**. Here's how my Dark Slash numbers look:

### **Dark Slash damage %:**

<b>Nurse:</b>	<b>17.86% damage</b>
Dark Mage:	14.83% damage
Defending Dark Mages:	7.41% damage
Defending Thief:	9.25% damage
<b>Dark Lord:</b>	<b>46.35% damage</b>

The most important things are highlighted: Nurse will take the most damage out of the DR users, so we look at her for determining our heal % setting. Dark Lord is obviously important because the whole goal of this change is to not have to use First Aid anymore. Here's the logic: Group Heal heals for 50% health, so, as long as Dark Slash does less than 50% damage, even if you're at 1% health, you'll always get healed up to more than Dark Slash can hit you for!

Here are our scripts:

### **Scripts:**

#### **Dark Lord:**

- Enemy Rank > Normal Default Attack
- **Self Health < 50% Heal Stone** (This can go lower, all the way down to 20%, eventually, as you increase X health even more, see below note on why it can't go below 20%).
- **Ally Health < 20% Heal Stone** (Set this above what damage your nurse takes from dark slash). ***Important note:* You CANNOT set this lower than 20%**. The third tick of burn always does 20% damage, so until all of your non-X characters can get burn immunity (does not exist in 1.0.5) you cannot let them go lower than 20% or the third tick of burn will be able to kill them.
- Enemy > 1 Phantasmal Claw
- Enemy Not Ore Default Attack

## Nurse:

- Self Health < 20% Group Heal (This line is set to 20% instead of 100% because when X is confused or slowed Nurse will get a turn even though healing may not be needed. In the event she is the only one who has been damaged and she doesn't really need the healing, she'll attack instead with this line. You could set it to 100% if you wanted, it will likely make a ~1fph kind of difference. **This cannot be lower than 20% because the 3rd tick of burn does 20% damage**).
- Ally Health < 100% Group Heal
- Enemy Isn't Ore Default Attack

And that's basically it!

## What's next?

From here the script changes are going to be VERY minor. Basically you'll keep working on getting X to be able to withstand more blows, with the next big breakpoints being when he can take 3 regular attacks before needing healing (2 should do about 71% right now which puts him in the dark slash danger zone), and then similarly being able to take 3 dark slashes, and so on. Just make sure to lower his heal stone HP to whatever is a bit above how much he needs to survive Dark Slash. (so lower it to 45% once Dark Slash does 44%, and so on).

The other big breakpoint, I would say is having your other party members be high enough health that they (almost) never are the ones who trigger healing. This is probably already the case with the always-defending members, but I still see Nurse trigger healing sometimes. I might toy around with the numbers and observe for a while to see if I can figure out where that (almost) never happens. Should add a little fph but nothing dramatic, I expect. The best way to view HP for this at this point is that the cost of one level in X + N relic is probably about the same value as one level in Health relic. So however that works out. This one is more of an "observation," thing where you have to see if Nurse is the one triggering the healing often.

**Note:** I had a friend who's good at stats do a little number crunching and I think already with my numbers on the last part here that any party member other than X triggering healing is already quite rare, probably happening less than 1% of the time. If you're good at stats and your numbers come out differently, by all means shoot me a message!

From what I've heard, without doing fancy monitor fps stuff (to do with weird tricks that turn off V-sync or something) your upper limit of fph is going to be around 1880.

I'll try to update the guide again going into the future, especially if I figure something interesting out, or if there's an update that changes things, but for now you should all be able to more or less figure out the very simple steps to keep inching your fph up!

### **E) Make sure to defend at the start of every run.**

Because your entire composition's point is to heal as little and as infrequently as possible, and because your DM can one-shot with Noxin, two of your DMs and your Thief should rarely if ever need to take turns. This means if you set them to defend at the start of your run, they only take half as much damage as they would normally, meaning you need to heal even less often! It's a nice freebie. Make sure to defend at the start of every run, it's super important for this build!!!!

### **G) Thanks and concluding remarks**

Special thanks to Chiyo's weird no-X DR build on taking advantage of Group Heal giving me the idea to try this on a more "normal" X claw build and Darkz for being the first to try out some higher relic level stuff I can't test. Thanks to ElJay for ongoing feedback on more precise fph numbers and helping me to check if things are optimal going through a 2nd time. If you have any trouble with getting this to work, feel free to message me on Reddit or, if you want a quicker answer, through our Discord. Good luck!

- WifiSadness