

# Player Switching Algorithm

Inputs: active Pokemon, bench (alive teammates), enemy Pokemon, sand\_active flag.

Returns: bench index to switch to, or -1 to stay.

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## Step 0 — Special case: Player is Slaking (Truant lead)

Truant has unique timing (alternating attack/loaf). Handled in dedicated block:

- On loaf turn (`_truant_skip = False`, just attacked): switch to bench mon with  $WP \geq 0.15$ . Loaf turn is wasted otherwise.
- On attack turn: stay only if expected damage  $\geq 85\%$  of enemy HP (likely OHKO). Otherwise switch to bench with  $WP \geq 0.30$ .
- Truant resets on switch out  $\rightarrow$  re-entering Slaking always attacks first.

## Step 1 — Compute bench WPs (with switch-in cost)

For each non-fainted bench mon:

- Compute switch-in damage from enemy's best attack
- Subtract second hit if bench is slower than enemy (and enemy isn't Truant-loafing)
- Skip mon if it would be OHKO'd on switch-in
- Compute WP at the post-switch-in HP (with `below_50_locked` correctly set for Sassy AI cliff)
- Sort to find `best_bench_wp` and `best_bench_idx`

If no bench is viable  $\rightarrow$  return -1 (stay).

## Step 2 — Status overrides

| Condition                                                                                 | Action                                  |
|-------------------------------------------------------------------------------------------|-----------------------------------------|
| Active asleep/frozen + enemy has setup move (CM/Curse/DD/SD/BU/DT) + bench $WP \geq 40\%$ | Switch to break setup                   |
| Active asleep/frozen + no setup threat                                                    | Stay (wait to wake up)                  |
| Active is Metagross AND confused (high Atk $\rightarrow$ punishing self-damage)           | Switch (clears confusion on switch-out) |
| Active has yawn pending + no Lum Berry + bench $WP \geq 30\%$                             | Switch before sleep lands               |

## Step 3 — Setup-sweeper Meta-bait

If enemy has a setup move AND active is not Meta:

- Find Metagross on bench (HP  $\geq 50\%$ , not OHKO'd on switch-in)
- If Meta has a  $2\times$  SE move vs the enemy's types  $\rightarrow$  switch to Meta
- Goal: kill the setup mon fast before they snowball.

## Step 4 — HP-commit threshold

If active is slow (Spe < 300) AND enemy has no setup move:

- Sassy nature: HP floor = 50% (Sassy's attack rate collapses below 50%)
- Other natures: HP floor = 25%
- If HP fraction below floor:
  - Override: if best\_bench\_wp > 98% (free matchup) → switch
  - Otherwise → stay (don't waste switch turn on a wounded mon)

## Step 5 — Compute current WP

Add Sub bonus (+0.10 if active has Substitute up) to the raw WP.

## Step 6 — Free matchup rescue

If current\_wp < 0.90 AND best\_bench\_wp > 0.98 → switch (claim guaranteed kill).

## Step 7 — Stay if dominant (speed-tiered)

- Active outspeeds enemy AND current\_wp ≥ 0.80 → stay
- Active slower or tied AND current\_wp ≥ 0.90 → stay

(Higher bar for slower mons because they take a hit before attacking.)

## Step 8 — Better teammate gap

If best\_bench\_wp > current\_wp + 0.20 → switch.

## Step 9 — Default

Stay.

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## Spencer Gold Custom Strategy

Triggered separately when battle is identified as Spencer Gold (battle 42, 63, 84, 105, 126, 147). Uses spencer\_gold\_should\_switch instead of the general algorithm.

| Enemy active  | Action                                                                                                                                                               |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arcanine      | Stay (water-type lead handles via reorder)                                                                                                                           |
| Slaking       | Switch to Latios IF: Slaking is loafing this turn ( <code>_truant_skip = False</code> ) AND Latios's expected Psychic damage × 2 ≥ Slaking's current HP (2HKO range) |
| Suicune       | Switch to Latios for 2× SE Tbolt                                                                                                                                     |
| Anything else | Stay                                                                                                                                                                 |

The team is also reordered before Spencer Gold starts to put the best Fire-resister at lead position 0:

- Water-type (100), Thick Fat ability (70), Sand Stream ability (50), Rock-type (30), Dragon-type (20), Fire-type (10), minus 50 for Grass/Bug/Ice/Steel types.