Shaping You Fitness

THE BLOG: *HEALTH AND WELLNESS FOCUS*

How Alcohol Sabotages Your Muscle Growth: What Science Really Says

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IF YOU'RE SERIOUS ABOUT BUILDING MUSCLE, YOU NEED TO KNOW THE TRUTH ABOUT ALCOHOL. WHILE THE OCCASIONAL DRINK MIGHT SEEM HARMLESS, RESEARCH SHOWS THAT ALCOHOL CONSUMPTION CAN SIGNIFICANTLY UNDERMINE YOUR TRAINING EFFORTS AND MUSCLE-BUILDING GOALS.

THE SCIENCE BEHIND ALCOHOL AND MUSCLE GROWTH:

WHEN YOU'RE WORKING HARD IN THE GYM, YOUR BODY NEEDS OPTIMAL CONDITIONS TO REPAIR AND BUILD MUSCLE TISSUE. UNFORTUNATELY, ALCOHOL INTERFERES WITH MULTIPLE PHYSIOLOGICAL PROCESSES THAT ARE CRITICAL FOR MUSCLE GROWTH.

1. DISRUPTED PROTEIN SYNTHESIS

MUSCLE GROWTH HAPPENS THROUGH A PROCESS CALLED MUSCLE PROTEIN SYNTHESIS (MPS), WHERE YOUR BODY REPAIRS AND BUILDS NEW MUSCLE FIBERS AFTER TRAINING. RESEARCH PUBLISHED IN PLOS ONE FOUND THAT ALCOHOL CONSUMPTION SIGNIFICANTLY REDUCES MUSCLE PROTEIN SYNTHESIS RATES BY UP TO 37%, EVEN WHEN ADEQUATE PROTEIN IS CONSUMED (PARR ET AL., 2014).
THE STUDY DEMONSTRATED THAT ALCOHOL INTAKE FOLLOWING RESISTANCE EXERCISE IMPAIRED THE ANABOLIC RESPONSE IN SKELETAL MUSCLE, MEANING YOUR BODY'S ABILITY TO BUILD MUSCLE IS DIRECTLY COMPROMISED.

2. TESTOSTERONE SUPPRESSION

TESTOSTERONE IS A CRUCIAL HORMONE FOR MUSCLE GROWTH AND RECOVERY. MULTIPLE STUDIES HAVE SHOWN THAT ALCOHOL CONSUMPTION DECREASES TESTOSTERONE LEVELS WHILE SIMULTANEOUSLY INCREASING CORTISOL, A STRESS HORMONE THAT PROMOTES MUSCLE BREAKDOWN.

RESEARCH IN ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH FOUND THAT ACUTE ALCOHOL INGESTION CAN SUPPRESS TESTOSTERONE PRODUCTION FOR UP TO 24 HOURS (SARKOLA & ERIKSSON, 2003). LOWER TESTOSTERONE MEANS REDUCED MUSCLE-BUILDING CAPACITY AND SLOWER RECOVERY BETWEEN WORKOUTS.

3. IMPAIRED RECOVERY AND INCREASED INFLAMMATION

YOUR MUSCLES DON'T GROW DURING YOUR WORKOUT—THEY GROW DURING RECOVERY. ALCOHOL SIGNIFICANTLY DISRUPTS THIS CRITICAL PROCESS.

A STUDY IN SPORTS MEDICINE REVEALED THAT ALCOHOL CONSUMPTION INCREASES INFLAMMATORY MARKERS AND DELAYS MUSCLE RECOVERY FOLLOWING EXERCISE-INDUCED DAMAGE (BARNES ET AL., 2010). THIS MEANS LONGER RECOVERY TIMES, INCREASED SORENESS, AND REDUCED PERFORMANCE IN SUBSEQUENT TRAINING SESSIONS.

4. DEHYDRATION AND NUTRIENT DEPLETION

ALCOHOL IS A DIURETIC, CAUSING INCREASED FLUID LOSS THROUGH URINE. PROPER HYDRATION IS ESSENTIAL FOR MUSCLE FUNCTION, NUTRIENT TRANSPORT, AND RECOVERY. RESEARCH SHOWS THAT DEHYDRATION CAN REDUCE STRENGTH PERFORMANCE BY 10-20% AND IMPAIR MUSCLE ENDURANCE.

ADDITIONALLY, ALCOHOL INTERFERES WITH THE ABSORPTION OF CRITICAL NUTRIENTS INCLUDING:

- VITAMIN B12 (ESSENTIAL FOR ENERGY METABOLISM)
- FOLATE (IMPORTANT FOR CELL GROWTH AND REPAIR)
- ZINC (CRUCIAL FOR TESTOSTERONE PRODUCTION)
- MAGNESIUM (VITAL FOR MUSCLE CONTRACTION AND RECOVERY)

5. DISRUPTED SLEEP QUALITY

QUALITY SLEEP IS WHEN YOUR BODY RELEASES THE MAJORITY OF GROWTH HORMONE, A KEY DRIVER OF MUSCLE GROWTH AND RECOVERY. WHILE ALCOHOL MAY HELP YOU FALL ASLEEP FASTER, RESEARCH IN ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH SHOWS THAT ALCOHOL SIGNIFICANTLY DISRUPTS REM SLEEP AND OVERALL SLEEP ARCHITECTURE (EBRAHIM ET AL., 2013).

POOR SLEEP QUALITY MEANS:

·REDUCED GROWTH HORMONE RELEASE
·IMPAIRED MUSCLE RECOVERY
·DECREASED TRAINING PERFORMANCE
·INCREASED FATIGUE AND REDUCED MOTIVATION

6. INCREASED FAT STORAGE

WHEN YOU CONSUME ALCOHOL, YOUR BODY PRIORITIZES METABOLIZING IT OVER OTHER NUTRIENTS BECAUSE IT'S TREATED AS A TOXIN. THIS MEANS THAT FAT BURNING IS SUPPRESSED FOR SEVERAL HOURS AFTER DRINKING, AND THE CALORIES FROM FOOD CONSUMED WITH ALCOHOL ARE MORE LIKELY TO BE STORED AS BODY FAT.

RESEARCH PUBLISHED IN THE AMERICAN JOURNAL OF CLINICAL NUTRITION FOUND THAT ALCOHOL CONSUMPTION CAN REDUCE FAT OXIDATION BY UP TO 73% (SUTER ET AL., 1992), MAKING IT HARDER TO MAINTAIN THE LEAN PHYSIQUE YOU'RE WORKING TOWARD.

7. COMPROMISED IMMUNE FUNCTION

CONSISTENT TRAINING PLACES STRESS ON YOUR IMMUNE SYSTEM, AND ALCOHOL FURTHER WEAKENS YOUR BODY'S DEFENSES. STUDIES SHOW THAT REGULAR ALCOHOL CONSUMPTION SUPPRESSES IMMUNE FUNCTION, MAKING YOU MORE SUSCEPTIBLE TO ILLNESS AND INFECTION (SZABO & SAHA, 2015).

MISSING TRAINING SESSIONS DUE TO ILLNESS SETS BACK YOUR PROGRESS AND DISRUPTS THE CONSISTENCY NEEDED FOR MUSCLE GROWTH.

THE BOTTOM LINE

THE RESEARCH IS CLEAR: ALCOHOL AND MUSCLE GROWTH DON'T MIX WELL. EVEN MODERATE DRINKING CAN:

- REDUCE PROTEIN SYNTHESIS BY UP TO 37%
- SUPPRESS TESTOSTERONE PRODUCTION
- DELAY RECOVERY AND INCREASE INFLAMMATION
- DISRUPT SLEEP QUALITY
- INCREASE FAT STORAGE
- COMPROMISE IMMUNE FUNCTION

DOES THIS MEAN YOU CAN NEVER DRINK?

NOT NECESSARILY. IF MUSCLE GROWTH IS YOUR PRIMARY GOAL, LIMITING ALCOHOL CONSUMPTION IS ONE OF THE MOST IMPACTFUL CHANGES YOU CAN MAKE. IF YOU CHOOSE TO DRINK:

- LIMIT FREQUENCY AND QUANTITY (OCCASIONAL, MODERATE CONSUMPTION IS LESS HARMFUL THAN REGULAR DRINKING)

- AVOID DRINKING IMMEDIATELY AFTER TRAINING (THIS IS WHEN PROTEIN SYNTHESIS IS MOST CRITICAL)
- STAY HYDRATED (DRINK WATER BEFORE, DURING, AND AFTER ALCOHOL CONSUMPTION)
- DON'T DRINK ON AN EMPTY STOMACH (EAT PROTEIN-RICH MEALS TO SUPPORT RECOVERY)

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