

# TDI Decompression Procedures – Subjects Covered

Overview of decompression “safety stops” compared to required stops.

## Physics

A.Pressure review.

## Physiology

- A.Mechanics of bubble formation.
- B.Advantages of hyperoxic mixes for decompression.
- C.Nitrogen Absorption and Elimination.
- D.Carbon Dioxide Toxicity.
- E.Ascent / Descent rates.

Hyperthermia.

Hypothermia.

## Psychological aspects

- I.Task loading.
- II.Stress.
- III.Panic.
- IV.Time Management.
- V.Equipment.

## Decompression Options

- A.Air.
- B.Nitrox.
- C.Oxygen.

## Equipment Considerations

- A.Twin cylinder or single cylinder option, valve options.
- B.Stage cylinder options.
- C.Regulator Options.
- D.Harness / BC options.
- E.Computer, depth gauge, bottom timer options.
- F.Ascent and navigation reels.
- G.Lift bags/surface marker buoys for drifting or free decompression.
- H.Jon-line or Garvin clips.
- I.Proper weighting and buoyancy control during dive phase and decompression.

## Dive Tables vs. Computers

- A.Introduction and review of different models (Buhlmann, DCIEM, US Navy, etc).
- B.Proper use of electronic multi-level dive computers for dive planning and decompression
  - I.Mix adjustable.
  - II.O<sub>2</sub> integrated.

## Dive Planning

- A.Standard Operation
  - I.Gas requirements.
  - II.Oxygen limitations.
  - III.Nitrogen limitations.
- B.Emergency planning
  - I.Omitted decompression.
  - II.Decompression sickness.
  - III.Equipment failure.

Procedures

A.Primary and Decompression Gas

- I.Normal operations.
- II.Failure, loss or inadequate emergency procedures.
- III.Analysis and logging.
- IV.Safeguards on decompression supply regulators.
- V.Rigging and deployment of decompression gear.

B.Descent

- I.Methods of entry, down lines or free decent.
- II.Organization of equipment carried on diver.

C.Ascent

- I.Variable rates.
  - II.Trim and compensation.
- Fixed or Drifting Decompression Methods
- I.Up-lines fixed to bottom.
  - II.Reels and lift bags/surface marker buoys.
  - III.Free drifting stages or boat supplied.
  - IV.Self-contained versus surface supply / rendezvous gas cylinders.

Support

- I.From shore.
- II.From descent line or fixed platform.
- III.From live-aboard boat.