Other Delivery Content Hand Outs

Copy the following independent study handouts to give to students.

Tec 40

Other Delivery Content, Tec 40-1

Study assignment: Tec 40 Handout 1

Learning Objectives

By the end of this section, you should be able to answer these questions:

1. How do the Tec 40, Tec 45 and Tec 50 courses fit together as the overall DSAT Tec Diver course?

2. What are the general goals of the Tec 45 and Tec 50 courses?

3. What are the limits of your training as a Tec 40 diver?

G. The DSAT Tec Diver course

1. The Tec 40 course is the first of three subcourses that together make up the DSAT Tec Diver course.
   a. The DSAT Tec Diver course was originally called the Tec Deep Diver course (hence the *Tec Deep Diver Manual*).
   b. The three subcourses, in order are the Tec 40, Tec 45 and Tec 50 courses. The names reflect the maximum qualification depth in metres for the respective levels.
   c. Completing all three qualifies you as a Tec 50 diver (formerly Tec Deep Diver), which is a fully qualified, open circuit entry level EANx deep decompression technical diver.
2. Tec 45 general goals are to train certified Tec 40 divers
   a. to use full technical equipment.
   b. to make decompression dives to 45 metres/145 feet using air or enriched air, with accelerated decompression techniques.
   c. to dive with one decompression gas with up to and including 100 percent oxygen.
3. Tec 50 general goals are to train certified Tec 45 divers
   a. to make decompression dives to 50 metres/165 feet using air or enriched air, with accelerated decompression techniques.
   b. to dive with two decompression gases with up to 100 percent oxygen.

H. Certification as a Tec 40 diver qualifies you to dive within the following limits, applying the appropriate procedures and equipment as you've been trained:

1. Dive to a maximum depth of 40 metres/130 feet using air or enriched air.
2. Make dives with up to 10 minutes required decompression.
3. Use enriched air nitrox with up to 50 percent oxygen (EANx50) during decompression to make it more conservative.
4. Although your certification qualifies you to these limits, you must also consider other limitations, such as the environment, conditions and other factors, and apply more conservative limits when planning dives.
5. These limits apply, even if you complete the Tec 40 using double cylinders and other equipment required for Tec 45 and above.

Exercise, Other Delivery Content, Tec 40-1

1. The Tec Diver course (choose all that apply)
❑ a. consists of three subcourses.
❑ b. begins with the Tec 40 subcourse.
❑ c. no longer exists.

2. The Tec 50 course qualifies a diver to make dives
❑ a. with up to 50 minutes decompression.
❑ b. with deco stops as deep as 50 feet/12 metres
❑ c. to a depth of 50 metres/165 feet
❑ d. to a depth of 50 fathoms (300 feet).

3. As a Tec 40 diver, applying appropriate procedures and equipment as you've been trained, you're qualified to (choose all that apply)
❑ a. to dive as deep as 40 metres/130 feet.
❑ b. have up to 10 minutes required decompression.
❑ c. use a single gas with up to 50 percent oxygen during decompression.

How did you do?

1. a, b. 2. c. 3. a, b, c.

Other Delivery Content, Tec 40-2

Study assignment: Tec 40 Handout 2

Learning Objectives

By the end of this section, you should be able to answer these questions:

1. Why can the equipment requirements for Tec 40 be less stringent than the standardized technical rig?
2. What are the guidelines for selecting masks, fins and snorkels for the Tec 40 level?
3. What characteristics do you look for cylinders and cylinder valves for the Tec 40 kit?
4. What is the minimum number of fully independent regulators, per diver, and how do you configure each?
5. What type of BCDs can you use for Tec 40 level diving? Why is a tec diving harness recommended?
6. How do you choose an appropriate exposure suit for technical diving?
7. What are your options regarding weight systems, and what are the advantages and disadvantages of each?
8. What types of dive computers and other instruments do you need for Tec 40 level diving?
9. What types of cutting tools are appropriate for deep technical diving, and how many should you have?
10. What are six general guidelines regarding pockets, accessories and clips you might need when technical diving?
11. What is a "stage/deco cylinder"?
12. How do you set up a stage/deco cylinder?
13. Why might you need a lift bag/DSMB and reel on a technical dive?
14. What are suitable lift bags/DSMBs and reels, and how do you secure them on your rig?
15. What are four recommendations regarding equipment maintenance?

You should also be able to:

16. Describe the layout, arrangement and configuration of the basic Tec 40 rig, with options, from head to toe as worn by a Tec 40 diver.

A. Tec 40 equipment requirements and the standardized technical rig

1. The technical diving community has a generally accepted open circuit equipment configuration as worn on a technical deep dive. This standardized technical rig employs all required equipment in a streamlined configuration based on a philosophy that minimizes confusion and procedural error. The

standard technical rig (backmount or sidemount) is required at the Tec 45 level and beyond.

2. You can dive with a less stringent equipment configuration (i.e., the Tec 40 kit or rig) within Tec 40 limits because the depth and decompression time limits are very restricted compared to broader technical deep diving.
   a. Exceeding Tec 40 limits (40 metres/130 feet and up to 10 minutes total required decompression) is *not* acceptable or reasonable with the Tec 40 rig.

B. Mask, fins and snorkel
1. Generally, the mask and fins you use for recreational scuba diving in a given environment are acceptable for the Tec 40 rig.
   a. Full sized fins (appropriate to your size) are generally recommended.
   b. Secure/tape loose straps so they don't dangle and can't slip.
   c. Spring heel fins (in place of straps) are good options because they're very strong, nothing dangles and they don't need adjustment and are easy to don and remove.
2. Snorkels are optional, but generally recommended for the Tec 40 rig.
   a. They allow you to breathe at the surface without using gas from your cylinder.
   b. They can be slightly cumbersome in an air sharing situation, so you may want to carry a folding/collapsible model in your pocket.

C. Cylinders and valves
1. You generally want a high capacity cylinder as your primary cylinder with the Tec 40 kit. This is because you use more gas on a deeper dive, and you need to keep a larger reserve.
2. 11-12 litre/71.2-80 cubic foot cylinders are generally considered the minimum size – larger (18 litre/100 cubic foot+) cylinders are preferred, but not readily available in some locations.
   a. If you opt for double cylinders, you should wear the standardized technical rig, not the Tec 40 kit.

3. The cylinder should have an H or Y valve, which allows you to have two entirely separate regulators. In case of a failure, you can shut down the gas to either one and still access the remaining gas with the other.
   a. With Tec 40 limits, it is alternatively acceptable to have a large, main cylinder with a pony bottle in place of an H/Y valve.
   b. If you use a pony instead of an H/Y valve, it should have a capacity of 850 litres free gas/30 cf or larger.
   c. The pony usually has the same gas (EANx blend or air) as the main cylinder. **If it has a higher oxygen content, the gas must still be breathable at the deepest planned depth (max 1.4 ata/bar), with a margin for error.**
4. The DIN (Deutche Industrie Norm) threaded system for valve apertures is generally preferred to the yoke system in tec diving.
5. Valve caps should *not* be tied to valves as they commonly are in recreational diving. Remove completely when diving.

D. Regulators
1. Because you cannot immediately surface, tec diving always requires a minimum of two fully independent regulators per diver (does not count those on stage or decompression cylinders).
2. Choose top of the line, balanced regulators for maximum reliability and performance at depth.
3. Configure the regulator that goes on the right valve post with a low pressure inflator hose and second stage with a two metre/seven foot hose.
4. Configure the regulator that goes on the left valve post with the SPG and a second stage on a standard length hose (about 80 cm/32 inches). If using a dry suit or a double bladder BCD system, this regulator also has a low pressure inflator hose.
   a. If using a pony bottle instead of an H valve, *both* regulators have SPGs. In this case, the SPGs must be clearly marked or secured to avoid any confusion.
5. Neither regulator has two second stages.
6. The DIN connection system is preferred (most DIN regulators accept adapters for yoke use).

E. BCD and harness

1. Most BCDs with shoulder and hip D-rings (other suitable attachment hardware in those locations) can be used for a Tec 40 rig. The D-rings are necessary for your decompression cylinder.
2. A tec diving harness configured for a single cylinder is generally recommended, though not essential, for the Tec 40 kit.
   a. Tec harnesses are harnesses that mount on top of an interchangeable BCD bladder. There are rigid plate (steel, aluminum or plastic) and all fabric versions.
   b. Tec harnesses have crotch straps, adjustable shoulder and waist D-rings and other features suited to higher level tec diving.
   c. The tec harness is recommended because you will use it when you move on to the Tec 45 course, and because you can use a double bladder BCD (BCD with two independent bladders and inflation/deflation systems) so you have backup buoyancy control.
      - In a decompression situation, simply dropping weights to restore buoyancy may not be an option because you would have too much buoyancy to maintain a decompression stop.
      - **Planning for BCD failure must be part of planning any technical dive. The double bladder BCD is the simplest, most reliable option.**
      - The Tec 40 rig (single cylinder) is not as negatively buoyant as higher level tec rigs, so redundant buoyancy is not mandatory at this level.

F. Exposure suits

1. Choose your exposure suit based on the water temperature at depth and the dive duration.
2. Tec dives tend to be longer than recreational dives, calling for more exposure protection. You also don’t exert and generate much heat while decompressing.
3. Dry suits offer the longest durations and coldest water protection.
   a. They may provide ample backup buoyancy.
   b. You should master dry suit diving as a recreational diver before using a dry suit for technical dives.

- 20 dry suit dives is a conservative minimum before tec diving dry.
- In recreational diving, you only use your dry suit for buoyancy control while underwater.
- In tec diving, you typically add gas to the suit to avoid a suit squeeze and use your BCD. This means controlling the gas in both your suit and BCD – a more complex skill to master.

4. Wet suits are adequate in warmer waters and well suited to dives within Tec 40 limits.
   a. A full 6 mm/.25 in wet suit with hood will generally handle dives up to two or three hours (far longer than a Tec 40 dive) in water 24ºC/75ºF or warmer.
   b. In a heavy rig, you need a double bladder BCD or other means for reliably handling a BCD failure.
   c. The advantage of a wet suit over a dry suit is operational simplicity – you only need to adjust your BCD.

G. Weight systems
1. Except in very warm water requiring minimal exposure protection, you will usually need weights even in a technical rig. A weight belt, integrated weights or a weight harness are acceptable.
   a. Some tec divers choose a metal plate harness to reduce the amount of lead they need to wear.
2. Weight belt
   a. Advantages: simple, readily available when needed
   b. Disadvantages: with crotch strap, must don after putting on rig so it's not trapped.
3. Integrated weights
   a. Advantages: no need to put on last, positioned amid rig
   b. Disadvantages: must have BCD/harness system with weight system build in; makes overall scuba rig heavier
4. Weight harness
   a. Advantages: put on before scuba rig, doesn't add to rig's weight
   b. Disadvantages: may be awkward to adjust rig so it doesn't interfere with quick release weight ditching.

5. Loss of weights can be significant hazard on a decompression dive because it can make it difficult or impossible to stay at stop depth.
   a. Some tec divers put two quick release buckles on weight belts to avoid accidental loss.
   b. Another option is to wear a crotch strap over a weight belt to avoid accidental loss. With this approach, it's recommended that the crotch strap have a quick release so the weights can be discarded if necessary.

H. Instrumentation
1. You need *two* ways of determining your decompression requirements.
   a. The simplest option is to wear two dive computers.
   b. The second option is to wear a computer with depth gauge, timer and decompression tables.
2. For Tec 40, you only *need* a standard air dive computer or computers.
   a. An EANx compatible computer is recommended – allows you to benefit from more bottom time with enriched air, and calculates your oxygen exposure.
   b. If you have yet to invest in your dive computers, choose models that run multiple gases and trimix so you'll be set for Tec 45 and beyond.
3. Arm mounted instruments (other than SPG) are generally preferred (required at the Tec 45 level and up).
4. Mechanical SPGs are generally preferred because they're simple and reliable.
5. Compass – You need a high quality, liquid filled model if using a standard compass. Many newer dive computers have electronic compasses. The compass is commonly carried in a pouch or pocket until needed.

I. Cutting tools
1. You should have a cutting tool, and ideally two (two required at Tec 45 level up). Mount at least one where you can reach it with either hand (generally waist/chest area).
2. Typical dive knife, dive shears, Z-knife (hook with blade), stainless folding knives and dive tools are all acceptable.
3. Large, calf-mounted knives/tools are generally avoided in tec diving, especially cave diving and wreck penetration, because they entangle easily.

J. Guidelines for pockets, accessories and clips
1. Avoid large pocket pouches on harnesses – they cause too much bulk and clutter.
2. Most useful pockets in tec diving are thigh pockets on your exposure suit.
3. Mount stainless steel or brass clips on accessories to clip to your BCD or harness. Don't mount the clips on the BCD or harness.
4. Sliding gate clips (a.k.a. dog clips) are preferred to marine snaps (swinging gate clips), because they won't accidentally clip to things by themselves.
5. Choose clips based on the environment – you need larger clips when wearing thick gloves.
6. Using and mounting clips
   a. When possible, keep accessories in pockets until needed.
   b. Clip accessories well out of the way, secured so they don't dangle.
   c. Attach clips so they can break away so you can release in an emergency. The simplest approach is to mount the clip via a small o-ring or thin pull tie that breaks with a sharp tug.

K. Stage/deco cylinders
1. A stage cylinder is used to extend the deep portion of the dive. A deco (decompression) cylinder provides gas (usually with higher oxygen content) during decompression. They are rigged the same, so it's common to call deco cylinders "stages" or "stage cylinders." The general term for both is "stage/deco cylinder." In context, the terms are seldom confusing.
2. Stage/deco cylinders are worn on the side under the arm, clipped at the waist and on the chest.
3. **A stage/deco cylinder *never* replaces one of the two regulators/valves you need from your primary gas supply.**
4. As a Tec 40 diver, you will often use a deco cylinder.
   a. Some dives at this level do not need a deco cylinder, because you have enough gas, plus your required reserve, for the entire dive including decompression.
   b. But, a deco cylinder is recommended nonetheless because it provides extra gas capacity, plus gives you the option of switching to EANx with a higher oxygen content for added decompression conservatism. (More about this later).

5. Typical stage/deco cylinder setup
   a. The cylinder is typically a 4 litre/30 cf size or larger. The popular aluminum 11 litre/80 cf has more capacity than you usually need at the Tec 40 level, but it is commonly available and easy to handle. It is perfectly acceptable to use – having too much gas is seldom an issue.
   b. The cylinder has a nylon rope/strap approximately 46 cm/18 in, approximately under the valve opening, running down to a band around the cylinder with a clip at each end. This serves as a handling strap; the clips attach the cylinder on your BCD D-rings at the waist and chest/shoulder.
   c. The regulator has a single second stage and SPG. Hoses tuck under inner tubing, bungee or stretch nylon straps around cylinder.
   d. The second stage has break-away clip usually attached to the hose close to where it meets the second stage.
   e. The SPG may have a very short hose, or a standard length hose that is tucked along the cylinder length.
   f. It's recommended that the clips be attached via rope or nylon so you can cut the cylinder free if a clip jams.
   g. **For safety, stage/deco cylinders are *always* clearly marked with the gas blend they contain, the maximum depth you can breathe the gas (based on the oxygen partial pressure) and the diver's name. These markings are always large and positioned so a team mate can read them while the cylinder is worn.**

L. Lift bags/DSMBs (Delayed Surface Marker Buoys) and reels
   1. You may find yourself accidentally away from your planned ascent line (anchor/mooring line).
   2. In this case, your team uses a reel to deploy a lift bag or DSMB. This gives you an ascent reference, allows surface support personnel to track your position, and helps you maintain your decompression stop in midwater.
   3. Suitable lift bags are brightly colored, with large capacities (45 kg/100 lbs lift) preferred. DSMBs are taller and more compact; they don't have to have the same lift capacities. Preferred DSMBs have one-way valves for filling, with overpressure valves. These keep the buoy inflated even if it topples at

the surface momentarily. It is recommended that you write your name on your lift bag/DSMB for surface support identification.

4. Lift bags are carried rolled up and tucked into special carrying pockets or put in bungees that stow them horizontally in the small of the back. DSMBs roll up more compactly, generally, and fit in harness/BCD pockets or thigh pockets.
5. A suitable reel is compact with ample line to reach the surface.
6. The reel is clipped to a D-ring on the right hip.

M. Maintenance

1. You rely on your gear for life support. Therefore, maintain it according to manufacturer recommendations.
2. Have regulators, valves, BCDs and gauges inspected and overhauled at least annually, or more frequently for heavy use or as manufacturer specified.
3. Have anything that doesn't appear to work normally serviced before using it.
4. *Never tec dive with gear in anything but top shape and within its design parameters.* To do otherwise needlessly raises your risk of injury or death by starting the dive with a potential problem.

N. Putting it together: basic Tec 40 rig, head to toe

1. Use a cylinder with H or Y valve in a BCD/tec harness.
2. The left side regulator has a short hose second stage. This is the secondary regulator. It routes to the right and hangs below the chin on a bungee. The SPG hose goes down along the cylinder; the SPG has a clip to secure it to waist or chest D-ring (as preferred). Low pressure hose(s) feeds the dry suit and/or backup BCD (if used). The valve is open all the way (do not close it back a quarter turn).
3. The right side regulator has a long hose second stage. This is the primary regulator. It is the last thing you put in place when kitting up. The hose routes straight down along the cylinder to the hip, then up across the chest and around the left side of the neck into the mouth. At the hip, the safety reel lies on top of it to help keep it in place. The low pressure hose feeds the primary BCD inflator. There is no SPG. The valve is open all the way (do not close it back a quarter turn).

4. If using a pony instead of an H/Y valve, the pony goes on the left side of the main cylinder and takes the left side (secondary) regulator. In this case, the right (primary) regulator has the primary SPG, which is clipped as described above. The pony/secondary SPG is clipped low and behind the diver, where it is retrievable but not easily confused with the primary. It is also clearly marked (label, color, etc.) to easily distinguish it from the primary SPG.
5. With double bladder BCDs, the backup inflator is secured behind the diver so that it is easy to deploy, but not easily confused with the primary (you only use one BCD bladder at a time).
   a. Some divers leave the LP hose disconnected from, but bungeed to the backup inflator. This avoids accidental inflation (leaking inflator valve), but is easily connected for use.
6. Instruments are ideally arm mounted (except SPG), though compact consoles are acceptable in the Tec 40 rig.
7. The weight system is secure, free for ditching. The backup buckle is secured if used.
8. Mask and fins are preadjusted and inspected, secured so they can't slip out of adjustment.

Exercise, Other Delivery Content, Tec 40-2

1. Tec 40 has less stringent equipment requirements than the standardized technical rig, because the limits of Tec 40 diving keep you within recreational depth limits and a relatively short decompression time.

❑ True
❑ False

2. You cannot use the same fins you use in recreational diving for Tec 40 diving.

❑ True
❑ False

3. The recommended valve type for the Tec 40 kit is

❑ a. the standard yoke valve.
❑ b. a J reserve valve.
❑ c. an H or Y valve, DIN system.
❑ d. a J or K valve, yoke system.

4. The minimum number of fully independent regulators, per diver, is
- ❑ a. 1
- ❑ b. 2
- ❑ c. 3
- ❑ d. 6

5. You can use any BCD with D-rings or attachment hardware at the shoulder/waist for the Tec 40 kit.
- ❑ True
- ❑ False

6. Choose an exposure suit for a tec dive based on __________. (choose all that apply)
- ❑ a. depth
- ❑ b. duration
- ❑ c. temperature
- ❑ d. activity level

7. You never use a weight belt while tec diving.
- ❑ True
- ❑ False

8. For the Tec 40 level, a single computer is all the instrumentation you need.
- ❑ True
- ❑ False

9. At the Tec 40 level, you should have at least one cutting tool, but it's recommended you have two.
- ❑ True
- ❑ False

10. General guidelines regarding pockets, accessories and clips include (check all that apply):
- ❑ a. mount clips to the accessories.
- ❑ b. attach clips so they can break away.
- ❑ c. thigh pockets on your exposure suit are a good option.
- ❑ d. marine (swing gate) clips are the best choice.

11. At the Tec 40 level, a stage/deco cylinder will be used to
- ❑ a. carry a decompression gas.
- ❑ b. carry gas to extend the deepest portion of the dive.
- ❑ c. both a or b.
- ❑ d. None of the above.

12. A stage/deco cylinder is always marked with the gas it has in it, the maximum depth and the diver's name.
- ❑ True
- ❑ False

13. You may need a lift bag/DSMB and reel
- ❑ a. as a backup BCD.
- ❑ b. in case you lose track of your ascent point.
- ❑ c. to open a shipwreck hatch

14. A suitable lift bag or DSMB should have ample lift and be blue or gray.
- ❑ True
- ❑ False

15. Never, ever tec dive with gear that's in anything less than top shape.
- ❑ True
- ❑ False

16. The primary regulator (choose all that apply)
- ❑ a. goes on the right.
- ❑ b. has a long hose second stage.
- ❑ c. has the primary BCD low pressure hose.
- ❑ d. goes on the left.

How did you do?

1. True. 2. False. The same fins you use recreational diving are usually suitable for the Tec 40 level. 3. c. 4. b. 5. True. 6. a, b, c, d. 7. False. A weight belt is a common option in tec diving. 8. False. You need at least two computers, or one computer and a depth gauge, timer and decompression tables. You should also have SPGs and a compass. 9. True. 10. a, b, c. 11. a. 12. True. 13. b. 14. False. It should be red, yellow or some other bright color. 15. True. 16. a, b, c.

Other Delivery Content, Tec 40-3

Study assignment: Tec 40 Handout 3

Learning Objectives

By the end of this section, you should be able to answer these questions:

1. What is the maximum oxygen blend you would use as the bottom gas for a dive to 40 metres/130 feet?

2. What is the maximum percentage of oxygen you will use as a Tec 40 diver?

H. As a Tec 40 diver, your maximum allowable depth is 40 metres/130 feet.

1. Using the maximum depth tables on pages 266 and 267, you find that EANx28 is the highest oxygen content gas blend you can use at 40 metres/130 feet (PO_2 = 1.4 ata/bar).
2. You may use blends with more oxygen, but at increasingly shallower maximum depths.
3. With blends that have 36 percent or more oxygen, your maximum depth is so shallow and your no decompression time is so long that you probably won't have to make decompression dives at all.

I. The maximum oxygen percentage you're qualified to use as a Tec 40 diver is 50 percent (EANx50). You will normally use this as a decompression gas (you can use it as a bottom gas, but the maximum depth is 18 metres/59 feet – you will probably not need to decompress on such a dive).

1. The maximum depth for using EANx50 as a decompression gas (PO2 = 1.6) is 21m/70 ft (See the Equivalent Air Depth and Oxygen Management Tables for 50% on pgs 274 & 288)
2. You may be carrying EANx50 (or other deco gas) to a depth deeper than you can safely breathe it. **It is critical to follow all gas handling procedures to avoid accidentally switching to it at too deep a depth.** You will learn and practice these procedures beginning with Tec 40 Training Dive One.

Exercise, Other Delivery Content, Tec 40-3

1. The maximum oxygen enriched air you would use as bottom gas for a dive to 40 metres/130 feet is

❑ a. EANx28.

❑ b. EANx32.

❑ c. EANx36.

❑ d. EANx50.

2. The maximum oxygen content enriched air that you're qualified to use as a Tec 40 diver is

❑ a. EANx28.

❑ b. EANx32.

❑ c. EANx36.

❑ d. EANx50.

How did you do?

1. a. 2. d.

Other Delivery Content, Tec 40-4

Study assignment: Tec 40 Handout 4

Learning Objectives

By the end of this section, you should be able to answer these questions:

1. What is a “bounce” dive?

2. Why is it recommended that you switch to a higher oxygen EANx for decompression without accelerating your decompression, and/or set your dive computer for an EANx with less gas than actual, if making a “bounce” technical dive?

E. “Bounce” dives

1. A short dive to any depth is called a “bounce” dive.
   a. The definition is imprecise – what one person calls a bounce dive another may not.
   b. It is possible to make dives within the scope of Tec 40 qualifications that some would be consider bounce dives.
2. There are some anecdotal concerns about bounce decompression dives
   a. Some people think DCS data indicate that short, deep dives with short decompression requirements have a higher DCS risk than would be expected based on decompression models
   b. Again, definitions of “short” and “deep” and “risk” are subjective in this context.
   c. The concerns are hypothetical and not quantified, but they exist nonetheless.
3. To minimize bounce dive concerns (at all levels):
   a. Plan your dive with your computer set for air or an EANx with less oxygen than you actually use.
   b. Use a single gas computer, or if using a multigas computer, leave it set for your bottom gas, but decompress with an EANx blend with more oxygen.

c. Either of these (or both) will make your decompression more conservative.
- The required decompression time for a short, deep dives is correspondingly short. Deco is so short there is no meaningful benefit to accelerating decompression. Instead, you use EANx to make your decompression more conservative instead of shorter.
- It is common to extend the last deco stop two or three minutes as well.

Example: You dive to 40 metres/130 feet. You leave your dive computer set for air, but you actually dive using EANx25 as your bottom gas. You decompress with EANx40, but you leave your dive computer (if it is a multigas model) set for air during decompression.

d. You will plan your dives as a Tec 40 diver based on decompressing as if using your bottom gas, but using EANx to make your decompression more conservative.

Exercise, Other Delivery Content, Tec 40-4

1. A “bounce” dive isn’t defined precisely, but means a short dive to any depth.
❑ True
❑ False
2. To minimize bounce dive concerns (choose all that apply):
❑ a. set your dive computer for air or EANx with less oxygen than the gas you actually use.
❑ b. accelerate your decompression.
❑ c. decompress with a gas that has more oxygen than you set your computer for.
❑ d. ascend rapidly to minimize your time at depth.

How did you do?
1. True. 2. a, c.

Other Delivery Content, Tec 40-5

Study assignment: Tec 40 Handout 5

Learning Objectives

1. *How do you use desk top decompression software to plan a decompression dive based on a single gas, with no more than 10 minutes of decompression and a maximum depth of 40 metres/130 feet?*
2. *How do you use decompression software to determine your gas supply requirements?*
3. *What is the minimum reserve gas you should have on a technical dive?*
4. *How do you set your dive computer to follow the plan you made with your decompression software?*
5. *How does your team stay together when using dive computers to provide decompression information?*
6. *What limits tell you it is time to end your dive?*
7. *How do you calculate turn pressure?*
8. *How do you account for your oxygen exposure when using a gas with a higher oxygen content than you set your dive computer for?*
9. *What do you do if your desk top decompression software and dive computer differ significantly in their decompression information, or if your gas requirement calculations appear to be off?*

A. Starting with Tec 40 Practical Application Two, you'll begin planning decompression dives using desk top decompression software.

   1. Your dive planning will continue throughout the course and be the basis for simulated and actual decompression dives you make.
   2. The methods you learn also form the foundation for all your subsequent technical dive planning. However, gas and decompression planning becomes more complex as you go deeper and have longer decompression.

B. You will follow these basic steps:
   [Note: Your instructor will take you through this, step by step, during Tec 40 Practical Application Two, followed by you and your team mates planning a dive.]

   1. Launch the desk top decompression program (may be iPhone or PDA based as long as it provides decompression and gas supply calculations, as well as the ability to choose different gases).

2. Set the dive characteristics and presets.
   a. Select metric or imperial, open circuit (not closed circuit rebreather).
   b. Working and decompression SAC rates
      - You will determine your working (bottom) SAC rate during Tec 40 Practical Application Two based on the data you gathered during Tec 40 Training Dive One.
      - You will gather decompression SAC rate data during Tec 40 Training Dive Two. In the meantime, use 2/3 thirds your working rate.
      - Your program may refer to SAC as RMV.
   c. Select the single gas you want to use for decompression calculations
      - You will probably use an EANx blend for bottom gas.
      - Use the Maximum Depths tables in the *Tec Deep Diver Manual* to find the highest oxygen percentage for the EANx to your planned depth (PO_2 1.4)
      - Set the program for the EANx blend you will use, or for one with lower oxygen. At the Tec 40 level, it is simplest to set for air most of the time (21%).
      - You will probably use another EANx with higher oxygen for decompression. Do not set the program for this gas at this time.
3. Enter your planned depth and time into the program.
   a. Have the computer calculate your decompression. If it is longer than 10 minutes, enter a shorter time, a shallower depth or both.
      - Remember, as a Tec 40 diver, your limits are 10 minutes total decompression time and 40 metres/130 feet maximum depth.
      - For simplicity, your dives will be planned as though the entire dive will be made at the deepest depth. At higher training levels, however, you will learn to add planned depth changes.
   b. Enter depths/times until the total decompression time required is 10 minutes or less.

4. Use the program to determine your gas requirements based on your SAC rates, for the planned dives.
   a. Some programs do this each time they calculate decompression.
   b. Most programs will show you the gas requirements before and after calculating your reserve.
   c. In technical diving, the standard minimum reserve is 33 percent (rule of thirds), meaning that one third of all your gas is for emergencies only. That is, the minimum amount of gas you should have on a dive 1.5 times the amount predicted for the dive and the decompression, based on your bottom and decompression SAC rates.
   d. If your program doesn't determine reserve, simply multiply the predicted gas requirements by 1.5 to get the minimum gas volume you should have with you on your dive.
      - If you need a pony bottle or a decompression cylinder to meet the required minimum volume, it should be at least 1/3 of your total gas supply.
      - Note: At higher tec levels (Tec 45 and up), you will calculate individual gas blends independently and have to have 1.5 times the predicted requirements for each individual gas. Planning your decompression based on a single gas at the Tec 40 level simplifies this.
   e. If the minimum gas volume is greater than the capacity of the cylinder(s) you have will available, then plan a shorter/shallower dive until the gas requirements (including reserve) are within the available capacity.
   f. Because divers have differing SAC rates, each diver on the team calculates gas requirements for the team's planned dive.
      - The *team* works together with the program until arriving at a depth and time that meets the gas supply requirements for everyone.
      - A common strategy is to plan the dive based on the highest SAC rates (bottom and deco), with all divers carrying the predicted amount of gas (including reserve). This is acceptable, because it simply adds reserve for divers with lower SAC rates.

g. After you have a final decompression schedule with gas requirements that work for the team, print out the decompression schedule and gas requirements for use at the dive site.
   - If using only a single computer, print out backup tables to laminate (or list them on a slate) and use with a timing device and depth gauge in the event of computer failure. It is recommended that you print schedules for your planned depth and time, as well as plus and minus five minutes and plus and minus 3 metres/10 feet (nine schedules total).

5. During equipment setup for the dive, set your dive computer(s) for the EANx blend or air that you used in the decompression software.
   a. Your *actual* EANx blend may have a higher oxygen content, provided you don't exceed a PO_2 of 1.4 at your deepest depth.
   b. Your decompression cylinder may have EANx50 (or a blend with less oxygen). Do not decompress with it at a depth where the PO_2 exceeds 1.6.
   c. These gases with higher oxygen content simply make your decompression more conservative.
   d. During the dive, you and your team mates may have slightly different decompression schedules due to slight variances in your depths, as well as differences in your dive computer's decompression models.
      - To stay together, the team stays at each stop until all computers clear all divers to ascend to the next stop or surface.
      - If using tables (back up situation), team stays at each stop until all computers clear all divers to ascend, or for the table stop time, whichever is longest.

6. Limits that end the dive.
   a. In technical diving, your dive ends when anyone on your dive team reaches **any** of the following, **whichever comes first**:
      - you reach the planned bottom time (what you used in the decompression software)
      - your or a team mate's dive computer shows 10 minutes decompression time required (or less if the planned decompression was less)

- **It is important to turn the dive with the planned decompression time showing, even if the bottom time is less than planned and the required decompression is still less than 10 minutes, because your decompression gas volume requirement is based on the *planned* decompression time.**
- you or a team mate reaches *turn pressure* on your gas supply

7. Turn pressure is the reading on your SPG that indicates it is time to head up. It is calculated based on the cylinder pressure of the gas volume your software predicts you'll use on the bottom. Knowing your turn pressure and having it written on a slate assures that you head up with the gas for decompression and reserve intact.
   a. Almost all software will tell you the required gas for all individual gases, but many do not tell you how much you use on the bottom, or calculate turn pressure.
   b. To determine your turn pressure, you may therefore have to do so with a calculator and the tables in the *Tec Deep Diver Manual.*
   c. You will use turn pressure formulas, as well as what you already learned about SAC and actual gas supplies in Tec 40 Knowledge Development One.
      - Note: For simplicity, treat your descent as time on the bottom. This gives you a slightly higher reserve.
   d. Formulas:
      - Metric: Turn pressure = start pressure – (bottom volume ÷ cylinder capacity)
      - Imperial: Turn pressure = starting pressure – (bottom volume ÷ baseline)
   e. Examples

Metric example:
Your working SAC rate is 19 litres per minute. You plan a dive to 40 metres for 10 minutes. Your decompression software shows that using an 11 litre cylinder, working pressure 205 bar, and a 9 litre deco cylinder will provide the gas volume you need. By what pressure should you start your ascent?

First, find your bottom volume.

Bottom volume = minutes X SAC X conversion factor

Bottom volume = 10 X 19 X 5.2

Bottom volume = 988 litres

Assuming your 11 litre cylinder is full (205 bar), then:

Turn pressure = 205 – (988 ÷ 11)
Turn pressure = 115 bar

To manage your gas appropriately, you should begin ascending when or before your SPG reaches 115 bar.

Imperial example.

Your working SAC rate is .8 cf per minute. You plan a dive to 130 feet for 10 minutes. Your decompression software shows that using an 80 cubic foot cylinder, working pressure 3000 psi, and a 65 cubic foot deco cylinder will provide the gas volume you need. By what pressure should you start your ascent?

First, find your bottom volume.

Bottom volume = minutes X SAC X conversion factor

Bottom volume = 10 X .8 X 4.9

Bottom volume = 39.2 cubic feet

Next, find the baseline for an 80 cubic foot cylinder. Recall that to get the baseline, you divide the working capacity by the working pressure

Baseline = cap ÷ working pressure

Baseline = 80 ÷ 3000

Baseline = .0267

Assuming your 80 cubic foot cylinder is full (3000 psi), then:

Turn pressure = 3000 – (39.2 ÷ .0257)
Turn pressure = 1474 psi.

To manage your gas appropriately, you should begin ascending when or before your SPG reaches 1474 psi.

f. Note that in both examples that your deco cylinder is required to meet the required reserve (rule of thirds).

C. Oxygen exposure calculations

1. If your dive computer was set for air or EANx with less oxygen than your actual bottom gas and/or you switched to a higher oxygen decompression gas for conservatism, you have to account for your oxygen exposure after the dive, because your dive computer didn't know how much oxygen you actually had in your cylinder(s).
2. After the dive, use desktop software and enter the dive as you actually made it – actual depths, times and gases used. Record your OTUs and CNS clock for planning subsequent dives.

D. Repetitive dives

1. Plan repetitive dives as you did the first dive, but recall that you must enter the first dive data and your surface interval so the program can account for residual nitrogen.
2. When planning a repetitive dive, enter the actual dive as made. You may also use the previous dive as planned if it yields a more conservative repetitive dive plan.
3. If OTUs or CNS could approach their maximums – unlikely within Tec 40 limits, but possible if you make several repetitive dives – after planning your dive based on a single gas, enter the planned depths, times and stops based on the actual gas blends to make sure you will remain within oxygen limits.

E. Making software line up with your dive computer

1. After a few decompression dives, you may find that your decompression software is more conservative than your dive computer, or vice versa.
   a. Be sure your backup computer and/or your team mate's computers are similar to your computer to rule out a problem with your computer.
2. If you don't spend the majority of the time at the deepest depth, your dive computer would be expected to be less conservative than your software, because it calculates the slower nitrogen absorption. Don't make any adjustments on this account.
3. If you do spend the majority of the time near the deepest depth, there may be some difference in the required stops and some variation in the total decompression time due to minor differences in the decompression models. This is normal.
4. If there is a large difference between your decompression software and your dive computers (enough to substantially throw off gas supply calculations etc.), contact the software author and/or the dive computer manufacturer. You can adjust safety factors above the default settings to make software more conservative, but do not make it less conservative unless advised to do so by the software manufacturer.
5. Assuming no unforeseen emergencies, you should surface from a dive with your reserve gas supply intact. If you have substantially more or less gas:
   a. First, confirm your working and decompression SAC rates. Adjust your SAC rates in the software if necessary.
   b. If your SAC rates are accurate and you're coming up with a bit less gas than you should, it is typically that your software predicts less decompression than does your computer.
   c. Check your decompression software setting and adjust it so it is more conservative and predicts a bit longer decompression.
   d. If the decompression seems to be in line (close match between your dive computer and the software), it may be how the software calculates gas use. Increase your SAC rate setting even if that makes it high compared to your calculations.
   e. Do not adjust anything if you have too much gas, unless the surplus is extreme. Too much gas is seldom a problem.

Exercise, Other Delivery Content, Tec 40-5

1. At the Tec 40 level, the recommendation is that you use EANx for your bottom gas and set your decompression software dive
❑ a. for the gas you're using.
❑ b. for an EANx blend with more oxygen.
❑ c. for at least two different gases.
❑ d. for air or an EANx blend with less oxygen.

2. To determine your gas supply requirements, you must enter your _________ into the software.
❑ a. decompression profile
❑ b. SAC rates
❑ c. bottom gas
❑ d. dive computer model

3. The minimum gas reserve you should plan for on a technical dive is ________ of your total gas supply.
❑ a. a quarter
❑ b. a third
❑ c. half
❑ d. two thirds

4. At the Tec 40 level, you set your dive computer to follow the plan you made with your decompression software by setting it for the EANx blend you used for your decompression planning with the software.
❑ True
❑ False

5. When using computers to provide decompression information, the team stays together. All divers stay at each stop until all computers clear all divers to ascend to the next stop.
❑ True
❑ False

6. When you or a team mate reaches any of the following, you should begin your ascent (choose all that apply):
❑ a. your planned bottom time
❑ b. a dive computer shows 10 minutes decompression required
❑ c. you have a decompression stop at 18 metres/60 feet
❑ d. turn pressure on your SPG

7. You calculate turn pressure by determining how much cylinder pressure you would use for the volume software predicts you will consume on the bottom.

❑ True

❑ False

8. To account for your oxygen exposure when using a gas with a higher oxygen content than you set your dive computer for

❑ a. you needn't do anything because the difference is negligible.

❑ b. you need to dive with a third and fourth dive computer set to the actual content.

❑ c. you enter the actual dive with the actual gases into your software.

❑ d. All of the above.

9. If your gas requirement calculations appear to be off, your first step is to confirm your working and decompression SAC rates.

❑ True

❑ False

How did you do?

1. d. 2. b. 3. b. 4. True. 5. True. 6. a, b, d. 7. True. 8. d. 9. True

Other Delivery Content, Tec 40-6

Study assignment: Tec 40 Handout 6

Learning Objectives

By the end of this section, you should be able to answer these questions:

1. What are Oxygen Tolerance Units (OTUs)?

2. How do you use OTUs to manage oxygen exposure?

3. How do you use the CNS "clock" to manage oxygen exposure?

4. What is the basis for CNS clock surface interval credit?

5. Why may you choose an EANx blend than has a PO_2 less than 1.4 at the working depth for a particular dive?

A. As you already learned, you need to manage your oxygen exposure when using EANx (and later oxygen as a Tec 45 diver) to avoid pulmonary and CNS oxygen toxicity.

1. Recall that your primary prevention of CNS toxicity is in keeping your oxygen partial pressure below the critical thresholds of 1.4 (working part of the dive) and 1.6 (decompression at rest).
2. Because it is a biochemical process, there must be an exposure-time relationship involved with the onset of CNS toxicity. However, there are so many other physiological variables involved that, for practical purposes, the relationship is useless for reliably predicting CNS toxicity.
3. Pulmonary oxygen toxicity does have a useful time-exposure relationship that allows reliable predictions.
   a. OTUs (Oxygen Toxicity Units or Oxygen Tolerance Units, depending upon the reference) and the "CNS clock" both help you prevent pulmonary oxygen toxicity.
   b. As a Tec 40 diver, pulmonary oxygen toxicity is highly unlikely, but possible if you make several dives in a short period using EANx with high oxygen (like EANx50).

B. OTUs

1. OTUs are units that measure your oxygen exposure as a dose. A given time at a given PO_2 yields a certain number of OTUs based on a simple mathematical equation.

2. At the Tec 40 level, as you know, you use your desk top decompression software to calculate your OTUs.
   a. You enter the actual gases you use (EANx blend) for your bottom depth and time, and for your decompression stops and times.
3. OTU limits vary depending upon how much diving you're doing.
   a. The Oxygen Tolerance Units Exposure Limits table in the Appendix of the *Tec Deep Diver Manual* shows you the limits based on the number of days diving.
   b. The Total OTUs for Mission is the limit for all OTUs together over the given number of days.
   c. The Average OTUs per day is the maximum allowed in a single day.
   d. Note that at 11 days on, the daily limit is 300 OTUs.
      - Many tec divers use 300 OTUs per day as the limit, even if diving for fewer than 11 days. This keeps things simple and conservative.
      - You'll find that 300 OTUs covers a lot of diving – this is a very workable approach even at higher tec diving levels.
   e. Check your OTUs with your desk top decompression software after each dive.

C. CNS clock
1. It seems somewhat redundant to calculate the "CNS clock" and OTUs, but this is the state of practice in tec diving.
2. As you know, you calculate CNS clock with your desk top decompression software. The CNS clock is expressed as a percent of the allowable exposure – so it should not exceed 100 percent.
   a. Most software calculates OTUs and CNS clock simultaneously.
3. There is oxygen surface interval credit for the CNS clock.
   a. Between dives, your body begins reversing the effects of oxygen exposure. This means there is potential for crediting time at the surface.
   b. The basis for CNS surface interval credit is hospital patients undergoing long term oxygen exposure. The system has a good field record with use.
   c. Most desk top decompression software will credit your CNS exposure when you plan repetitive dives.

d. The system has variations, so different decompression programs may give somewhat different results. You can also reference the CNS Surface Interval Table in the appendix of the *Tec Deep Diver Manual*.

e. Note that there is no surface interval credit for OTUs.

4. As always, stay well within CNS and OTU limits.

D. Oxygen exposure and gas blend choice

1. As you've learned, the "ideal" blend for a given dive is the one with a PO_2 near 1.4 at the maximum depth. This is based on the assumption that you want the maximum possible oxygen so you have the minimum nitrogen (and/or helium as a trimix diver) possible.
2. However, previous oxygen exposure or plans for additional dives may affect this.
3. To keep oxygen exposure well within limits, you may choose an EANx blend with a PO_2 less than 1.4, even if it means a shorter bottom time or a longer decompression time. This also keeps you well within PO_2 limits.
4. As you gain experience and increase your training as a tec diver, it becomes increasingly important to consider prior and planned dives when determining your OTUs and "CNS clock" exposure.

Exercise, Other Delivery Content, Tec 40-6

1. Oxygen Tolerance Units are units that measure your oxygen exposure as a dose.

❑ True

❑ False

2. To use OTUs, (choose all that apply):

❑ a. use software to calculate OTUs based on actual depths, times and gases.

❑ b. stay within the limits of the Oxygen Tolerance Units Exposure Limits table.

❑ c. never exceed 100 OTUs per day.

❑ d. use your software to calculate OTU surface interval credit.

3. To use the "CNS clock," (choose all that apply):

❑ a. use software to calculate CNS clock percent based on actual depths, times and gases.

❑ b. you don't exceed 100 percent.

❑ c. stay well within limits.

❑ d. use your software to calculate CNS surface interval credit.

4. The basis for the CNS clock surface interval credit is extensive testing with military divers.
- ❑ True
- ❑ False

5. Even if it were available, you may choose an EANx blend with a PO_2 less than 1.4 at the working depth to
- ❑ a. make your decompression more efficient.
- ❑ b. reduce oxidative wear on your equipment.
- ❑ c. decrease narcosis.
- ❑ d. manage your oxygen exposure over several dives.

How did you do?

1. True. 2. a, b. 3. a, b, c, d. 4. False. The basis for the CNS clock surface interval credit is data from hospital patients undergoing long term oxygen exposure. 5. d.

Other Delivery Content, Tec 40-7

Study assignment: Tec 40 Handout 7

Learning Objectives

By the end of this section, you should be able to answer these questions:

1. As a Tec 40 diver, what should you do if you exceed your planned depth and time?

2. As a Tec 40 diver, what should you do if you have a delay during your ascent?

3. As a Tec 40 diver, what should you if you miss a decompression stop?

4. As a Tec 40 diver, what should you do if you omit decompression?

5. As a Tec 40 diver, what should you do if you run out of gas?

A. This section discusses handling some emergencies within the context of Tec 40 equipment requirements and limits.
   1. The same emergencies can be more serious and more complex to handle for longer, more complex technical dives.
   2. This is another important reason to stay within the limits of your training and equipment.

B. Exceeding your planned depth and time.
   1. This should be a rare situation caused by unusual circumstances (if you can't control your depth under normal circumstances, you're not ready to tec dive).
   2. Immediately ascend and consult your computer. Your allowable dive time will likely be much shorter than you planned.
   3. If you exceeded your depth significantly and/or for more than a minute, end the dive immediately.

C. Delay in ascent
   1. At the Tec 40 level, a delay in your ascent is not usually a major issue.
   2. Your dive computer will calculate the changes in your required decompression, if any.
   3. If using a backup table (computer failed), it is not critical if the delay is short (2-3 min or less)
      a. Don't count the delay as decompression time.
      b. Extend your last stop as much as practicable, gas allowing.

D. Missed decompression stop
1. At the Tec 40 level, this is most likely to be caused by failure to control buoyancy.
2. If you can, redescend and complete the stop, plus one minute, then finish decompression according to your dive computer.
3. If you can't redescend, stay at the next stop for the combined time of both stops. Extend your last two stops (if two or more) by 1.5 what your computer requires, and/or as long as you can with the gas you have.
4. Some dive computers will lock up until you redescend to below the depth of a required stop. They provide no information in the event that you can't return to your deeper stop depth. If you have such a computer or computers, (see the manufacturer's instructions), you should have your planned decompression schedule with you (on a slate, backup tables, etc.) in case of this kind of emergency.

E. Omitted decompression
1. Omitted decompression is similar to a missed stop, but involves missing all required stops and coming all the way to the surface.
2. The risk of DCS is higher than normal, but at the Tec 40 level it should not be excessive if:
   a. you're using an EANx blend with more oxygen than you've set your dive computers for.
   b. you've completed most of your decompression using an EANx with an even higher oxygen content.
3. If you omit decompression for 6 metres/20 feet or less (most likely within Tec 40 limits), have no symptoms and can return to stop depth in less than a minute, decompress according to your computer, then extend the last stop as much as possible.
4. If you omit decompression for 6 metres/20 feet or less (most likely within Tec 40 limits), have no symptoms and return to stop depth in more than a minute, extend your 6 metre/20 foot stop by 1.5 times what the computer requires, and extend the last stop as much as possible.
5. If you omit decompression from deeper than 6 metres/20 feet, return to the first stop depth. Complete that stop up to and including the 12 metre/40 foot stop, then extend all subsequent stops by 1.5 times the required decompression.

6. If you can't return to depth (no gas available, for instance), breathe oxygen, remain calm and monitor yourself for DCS symptoms.
7. Some dive computers will lock up if you omit decompression. Others lock up after a given period (typically a minute), after which they provide no decompression information. If you have such a computer or computers, (see the manufacturer's instructions), you should have your planned decompression schedule with you (on a slate, backup tables, etc.) in case of this kind of emergency.

F. The TecRec Emergency Procedures Slate summarizes the procedures for delayed ascents, missed decompression and omitted decompression. It is recommended that you carry this slate with you on tec dives.

G. Running out of gas
1. Should be unlikely at the Tec 40 level if you plan your gas supplies correctly and follow the reserve rules.
   a. Having a deco cylinder with more than ample gas makes this even less likely.
2. Increased SAC rate due to exertion is not usually an issue, because you hit turn pressure sooner, which means a shorter dive time and less decompression.
3. If you run low on gas in a deco cylinder, switch to your back gas. As a Tec 40 diver, all your decompression should be based on using that gas or ideally, on one with lower oxygen content.
4. You can share gas with team mates and/or support divers.
5. Generally, if gas termination interferes with your decompression, decompress as long as you can, as best as you can. The more you decompress, the lower your DCS risk. However, do not run out of gas. DCS is serious but has a high likelihood of successful treatment. Drowning does not.

Exercise, Other Delivery Content, Tec 40-7

1. If you exceed your planned depth and time, as a Tec 40 diver you should consult your computer and be prepared to end your dive sooner than planned.

❑ True

❑ False

2. If you have a delay during your ascent, as a Tec 40 diver (choose all that apply)

❑ a. you should decompress for 1.5 times what your computer says.

❑ b. you should decompress for 3 times what your computer says.

❑ c. continue to decompress according to what your computer says.

❑ d. None of the above.

3. If you miss a decompression stop, as a Tec 40 diver (choose all that apply)

❑ a. you should redescend, complete the stop plus one minute, then finish decompression according to your dive computer.

❑ b. surface and seek immediate recompression.

❑ c. descend to 12 metres/40 feet and extend all stops by 1.5 times what you computer requires.

❑ d. you may need to refer to your written decompression schedule if your computers would lock up.

4. If you omit decompression, what you do depends upon how deep your stops were when you had the omission, and how fast you can return to stop depth.

❑ True

❑ False

5. If you run out of gas, as a Tec 40 diver your options may include (choose all that apply)

❑ a. switching back to back gas.

❑ b. sharing with a team mate or support diver.

❑ c. decompressing for as long as possible with what you have to minimize DCS risk.

How did you do?

1. True. 2. c. 3. a, d. 4. True. 5. a, b, c.